EXHIBIT 7-D

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Gas News Centennial Issue
March 1952

The Milwaukee Gas Compa
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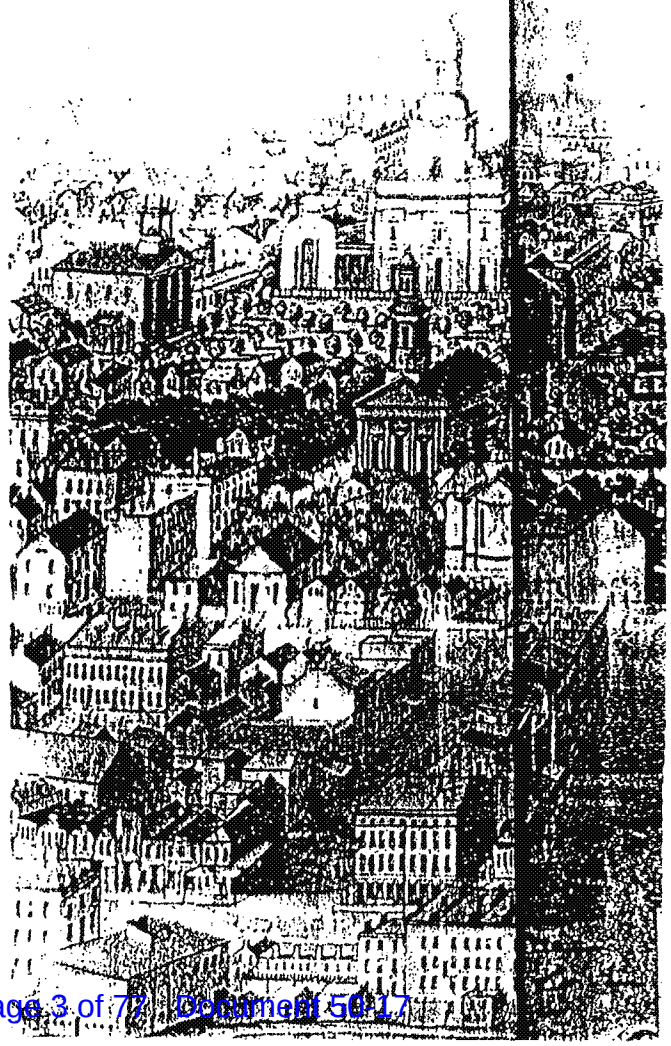
The year is 1851. Milwaukee, as a city, is just five years old. Only recently (it was incorporated as a city on January 31, 1846) did it emerge from the status of a bustling trading village, a far cry from its embryonic beginnings as the Indian settlement Solomon Juneau found in 1818 when he came here to handle the fur trade of Jacques Vieau.

The influx from the East in the early thirties not only brought inhabitants in greater numbers to this "gathering place by the rivers" as the name, Milwaukee, is said to signify, but, their influence was early detected in the physical changes they wrought, for among the newcomers were businessmen and immigrant artisans — men who built with their hands — men whose drive for the furtherance of trade sowed the first seeds of industry which, through the years, were to flourish and prosper until Milwaukee ranked high among the industrial centers of the nation.

The first railroad linking the city with the outside world had just been completed. Heretofore, all travel to and from the city was by stage coach, by water, on horseback or even on foot. Now, at last, Milwaukee was connected by rail with Waukesha, just two and one-half hours away. Known as the Milwaukee and Mississippi Railroad (first chartered as the Milwaukee and Waukesha Road), it formed the roadbed upon which, in years to come, the vast Chicago, Milwaukee, St. Paul and Pacific Railroad was built.

Streets, for the most part, were dusty trails, for this, indeed, was a time before plank roads and cedar blocks. Sidewalks were of wood, and public transportation by mule or horse-drawn cars was still an eventuality. The city's homes, however,

Looking eastward from the bridge a fare. In the early Cathedral (high-spired church), the (far left), the 110 East Wisconsin Building) and Building). At stands the first government lighthou



COURTESY MILWAUKEE ASSOCIATION OF COMMERCE

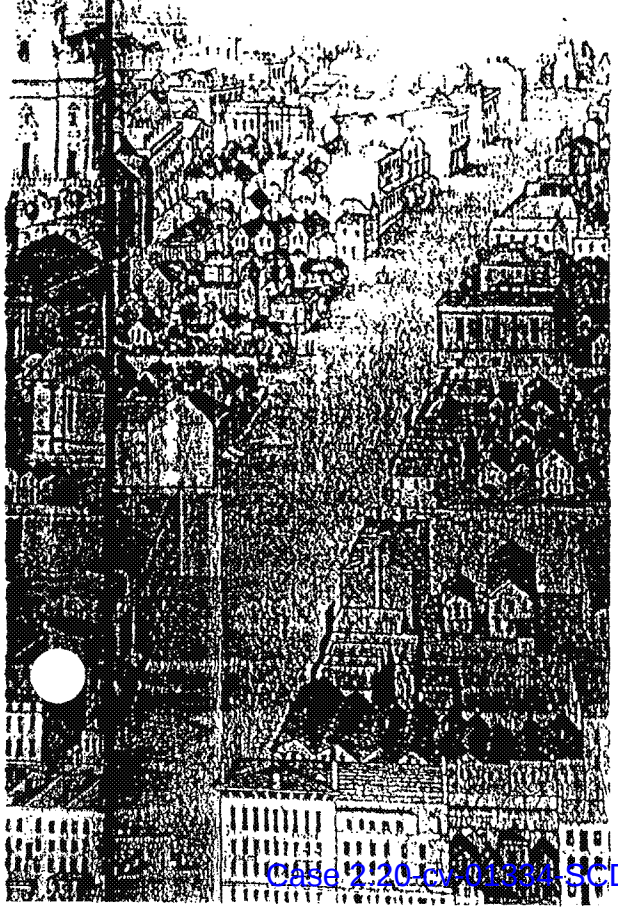
mpany salutes...

earlierdays,

h a glance at the present

and a peek at tomorrow!

bridge. Also in the early 1850's. Note St. John's -h), the (far left), the Ludington Building (now) and the Building). At the far end of the street lighthouse



were snug and attractive, being built, as they were for the most part, of cream colored brick (made from the clay of the region and found nowhere else in the world) which gave to them, as one early visitor said, "a very cheerful appearance as if the sun were always shining there."

With a population of better than 20,000, Milwaukee already had its share of breweries and beer gardens, dry goods and carriage shops, a tannery and even a Board of Trade (forerunner of the Grain and Stock Exchange of later years), as well as a number of banks. Oldest among them, at the time, was the Wisconsin Marine and Fire Insurance Company Bank, established in 1839, and already recognized as the pioneer bank of the entire Northwest. Indeed, for the first ten years of its existence, it furnished all the currency needed for the entire country lying between Detroit and St. Louis. Another, Marshall and Ilsley, later to be acclaimed "the oldest bank in continuous service in the entire Northwest," already had been serving the needs of the settlers for four years.

Even before its incorporation as a city, Milwaukee had taken steps to provide for the education of her children and, as far back as 1845, had 13 public and private schools with an enrollment of 584 students. In 1851 she was progressing even further in the field of education and, in addi-

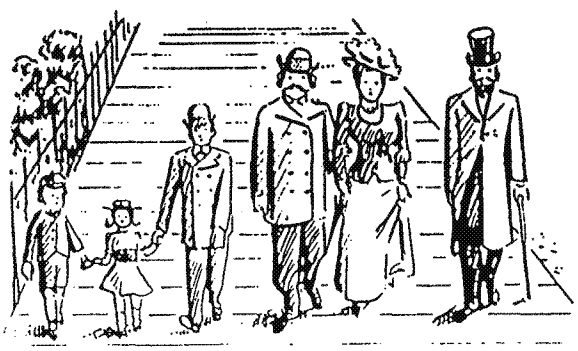
tion to primary schools and a German high school (well-known later as the German-English Academy, and today as the Milwaukee University School), she pointed with pride to the Milwaukee Female College (forerunner of Milwaukee-Downer College) which offered grade, preparatory and college courses, as well as special work for day and boarding students.

Neither were the spiritual needs of her people forgotten. For, even before the building of St. Peter's Catholic Church in 1839 (the oldest church in Milwaukee), services were held. On one occasion, at least, the Juneau home was offered to an itinerant preacher, and none other than Juneau, himself, kept the attending Indians at devout attention. Other churches, too, were early erected for people of all faiths.

Milwaukee at this time, 1851, also supported a number of thriving newspapers, among them the *Evening Wisconsin*, a descendent of the *Milwaukee Advertiser*, Milwaukee's first paper and third in the state, whose first issue appeared on the streets on July 14, 1836; and the *Sentinel*, the principal morning paper, founded a year later.

The magic of the telegraph was no longer a mystery, for Milwaukee had long since sent its inaugural telegraph message (January 15, 1848), just four years after telegraphy had been introduced to the world in general. Entertainment of one sort or another could readily be found, and for those of aesthetic taste, music halls and music societies abounded, oddly enough, perhaps, in a spot so far removed from the "culture" of the East.

In short, Milwaukee in 1851, was already taking on the aspects of a thriving metropolis. It is of little wonder then, that to a young engineer from the East, the time seemed ripe to promote a public utility. True, John Lockwood, of Cincinnati, came not to build a gas company, as he eventually did, but to interest the city officials in the construction of a municipal waterworks and sewerage disposal system — a proposition they promptly turned down. After all, they contended, "every property owner has a well and a pump at the back door and outdoor plumbing in the yard. Why should a lot of money be spent for a sewerage and water system?" Undaunted, however, young Lockwood came back with the offer to build Milwaukee's first gas company, and therein lies the beginning of what has since become the oldest of the utility companies in the city.



Always eager to at least keep pace with Chicago, her neighbor to the south, Milwaukee officials listened eagerly as John Lockwood unfolded his plan. After all, Chicago was already lighting her streets with gas, and Milwaukee was not to be outdone. True, interest in a gas company had been evidenced even as early as October, 1849, when George F. Lee, of Philadelphia, came here with the express intention of constructing a gas company. But, despite Council approval of the plan and the awarding of a contract to him in April of 1850, nothing happened. Lee simply failed to keep his end of the bargain and apparently left the city just as quickly as he had come. The contract, therefore, was declared forfeited on February 1, 1851.

Hence, it was an eager, though cautious, group of aldermen whom Lockwood approached with his proposition on May 31 of the same year. After listening carefully, a committee was appointed on June 5 to study his plans with authority to enter into a contract with him should everything be in order. Evidently, they were convinced of his ability to produce as he promised, for the agreement was executed the following day — and Milwaukee sat back to await the day — promised for some time in 1852 — when the city, too, would light its streets by gas. But, was it as simple as all that? What were the terms of the agreement? Where was the money to come from?

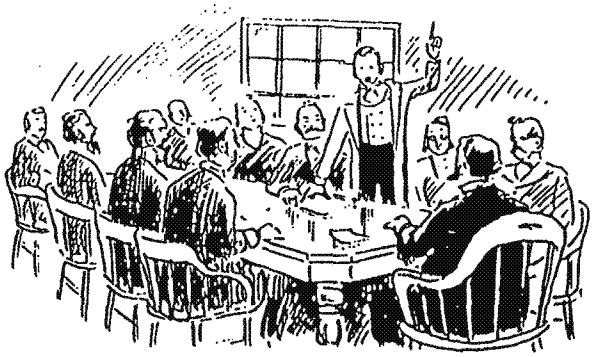
According to the contract, the City of Milwaukee agreed "*to convey to Lockwood and his successors or assigns the exclusive right and privilege to make all the necessary excavations, and to lay pipes for the purpose of conducting gas through or under any and all streets, alleys, lanes, sidewalks, highways, commons and rivers in the city for the term of fifteen years from the date of the contract. The city further agrees that all taxes for city purposes that might be levied or assessed upon the personal property belonging to the gas works to be constructed pursuant to the above agreement, shall be remitted and discharged for a period of four years from the date of the agreement.*" In return, Lockwood agreed to "*commence the erection and construction of a gas works in the City*

of Milwaukee in 1851 and to finish and complete the same in the year 1852, and further, upon completion, to furnish the City of Milwaukee with good gas for all the public lamps that might from time to time be installed, the City of Milwaukee agreeing to pay $2.50 per thousand cubic feet at the end of each quarter during which gas was furnished."

It was further agreed that should the City of Milwaukee or any of its citizens wish extensions for service which Lockwood or his legal representatives might refuse to make, such prospective customers could build their own extensions and Lockwood would be obliged to sell gas, under such circumstances, at two dollars a thousand cubic feet. However, such pipes were not to be used to supply others, nor were other pipes to be laid in the same street until the company reimbursed the customer for the extension he installed. Moreover, a main gas pipe was to be extended across the Milwaukee River before the gas works went into operation, of sufficient size to supply any demand there might be on the other side of the river. The agreement was signed by the Mayor of Milwaukee, and John Lockwood.

By August of 1851, Lockwood had chosen the site for the new gas works, for records show that on the thirtieth of that month he purchased four 60' x 120' lots on the west side of Jefferson Street, between Menomonee and Juneau (now Corcoran Avenue). Three months later, excavation was begun and the first steps of construction of the Third Ward Gas Works were under way.

On January 1 of the following year, John Lockwood, with a group of prominent businessmen of the day, joined together in an association to be known as the Milwaukee Gas Light Company. On that day, too, Lockwood assigned his interest in the contract with the city to the new Gas Light Company, and two days later entered into an agreement with the company for the construction of a complete gas works. He promised to lay six miles of mains, set in one hundred meters, service works and service pipes, provide 350 tons of coal (an eight months' supply), and to build the works itself, which was to consist of a retort house, purifying house, meter room, office, fitting shops, lime house, coal sheds, station meters, washers, condensers, hydraulic main, dip pipes, stand pipes, and a gasometer. Moreover, only first-class materials were to be used, and workmanship was to be of top quality. The total cost was set at $149,000 with *"payment to come, so far as possible, from the*



sale of stock with the balance to be paid, half in seven per cent convertible bonds and the remainder in stock."

One week later the Articles of Association were filed with the Secretary of the State of Wisconsin, and a 30-year limited corporate existence was granted. Authorized capital stock was set at $150,000, with William P. Lynde, John Lockwood, James H. Rogers, David P. Hull and James Kneeland as incorporators and trustees. James Kneeland was named president. However, because of dissatisfaction over the clause limiting its corporate existence as provided under the general statutes, the trustees applied for a second charter giving the right of perpetual succession under legislative act. This was granted and on March 27, 1852, the Milwaukee Gas Light Company received the charter not only perpetuating its existence, but also giving it an exclusive franchise to serve the City of Milwaukee.

According to the terms of this charter, the powers and privileges granted to the Milwaukee Gas Light Company were to include *"full and exclusive authority to manufacture, make and sell gas to be made from any and all substances, or combination thereof, from which inflammable gas is obtained, for the purpose of lighting the City of Milwaukee or the streets thereof, or any buildings, manufactories, public places or houses therein contained and to erect all necessary works and apparatus and to lay pipes for the purpose of conducting the gas in any of the streets, avenues, commons, lanes or alleys in said City, provided [redacted] agreeably to the terms and conditions of a contract now existing between the City of Milwaukee and John Lockwood entered into on the sixth day of June, A.D. 1851."*

Authorized capital stock remained at $150,000 — 3000 shares at fifty dollars par. A change, however, was made in the directors and officers of the new corporation. At the first meeting of the Board of Directors, James H. Rogers was elected president to replace James Kneeland, who became

treasurer. David Hull continued as secretary. The stockholders, in similar session, named Alexander Mitchell to replace William Lynde on the Board of Directors.

From then on, work moved along rapidly, considering the inefficient means at hand. Brick and stone were delivered in large quantities; orders went forth to Philadelphia for 100 meters, and to Pittsburgh for pipe. Late in May, the Schooner *Handy* sailed into port with 111 tons of gas pipe, retorts and castings, and by July, men were digging ditches and laying 3-inch mains. The big, three and one-half ton iron main, 222 feet long, destined to carry gas to the west side of the river at Spring Street (West Wisconsin Avenue) was ready in August for laying by a man from Albany especially hired for the job because of his experience and equipment.

Like the pieces of a jig-saw puzzle, everything was beginning to fit into place. Indeed, by Fall, through the efforts of more than 100 men, the exterior of the works buildings had been completed – a retort house, 52 by 62 feet and 28 feet high, of Cream City brick, had been set up, along with several smaller structures and a gasometer, or holder, approximately 72 x 22 feet, with a sheet iron top and a capacity of 75,000 cubic feet. Even the lamp posts had been set up on the city streets.

All Milwaukee was growing eager. However, within the company itself, problems, particularly financial ones, were mounting. Subscribers for stock were not easily found, for money was rather limited. Many of the settlers had used their small savings to pay for the difficult and costly journey that brought them to the West, and to set up their homes and workshops. Others, like Kneeland, and Rogers and Lockwood had already invested heavily in the new organization. Hence, it became imperative to agree to 10 per cent interest on stock payments until dividends were paid, and to issue bonds ($80,000 worth at 7%, convertible into common stock) in order to acquire additional working capital. Indeed, not only was it necessary to give Lockwood $20,000 in bonds and 300 shares of stock to apply on the gas works contract, but to pay, in stock and bonds, for the corporate seal, the stationery, the meters and the coal (the first shipment of which had come by schooner from M. B. Lowrie, of Erie, Pennsylvania). The situation was serious, but stockholders, suppliers — everyone had risked too much not to see it through.

The public, however, was blissfully unaware of all of this. To them, this was, indeed a big year. The city had a new mayor, Hans Crocker (the mayoralty term in those days was for a year only) — the population had increased to about 27,000, and the city boundaries had pushed out to the north as far as Brady Street on the east side of the river and Walnut on the west side; Greenfield Avenue on the south; the lake on the east, and on the west, to a line just beyond what is now Twelfth Street. The first railroad locomotive ever to be built west of Cleveland had been completed here for the Milwaukee and Mississippi Railway Company. Milwaukee and Chicago were, this very year, connected by rail, and the Milwaukee and Mississippi Road had been extended to Eagle and was steadily being pushed on toward Milton, Wisconsin. The city, beyond doubt, was becoming one of the most important centers east of the great Mississippi.

The days grew shorter and colder. It was soon the middle of November and the date set to light the city streets for the first time was not far away. Notice had been given that the lights would be lit on Wednesday, November 17, with a preliminary test to be made on the previous Friday. Thus it was that the first jet of burning gas ever to be seen in the city appeared in the retort house on November 12, giving, as spectators said, "a clear white flame and no perceptible odor." However, plans did not materialize as John Lockwood and his associates hoped they would, for, just the day before the initial lighting ceremony, an inquisitive visitor to the works turned on a few stop cocks "just to see what would happen" — with the result that the ensuing explosion caused by the ignition of the accumulated gas by a flickering candle, blew out one entire side of the newly completed building. Although the damage was not great and no one was injured, the street lighting ceremony had to be postponed for a week.

At last, however, the big night arrived. It was November 23, 1852, and, for the first time in the city's history, the streets were brilliantly lighted. Where once only the moon had cast her glow, now gas brightened Jefferson, Milwaukee, Main, East Water, Huron, Wisconsin, Market Square, Spring,

Continued on page 10

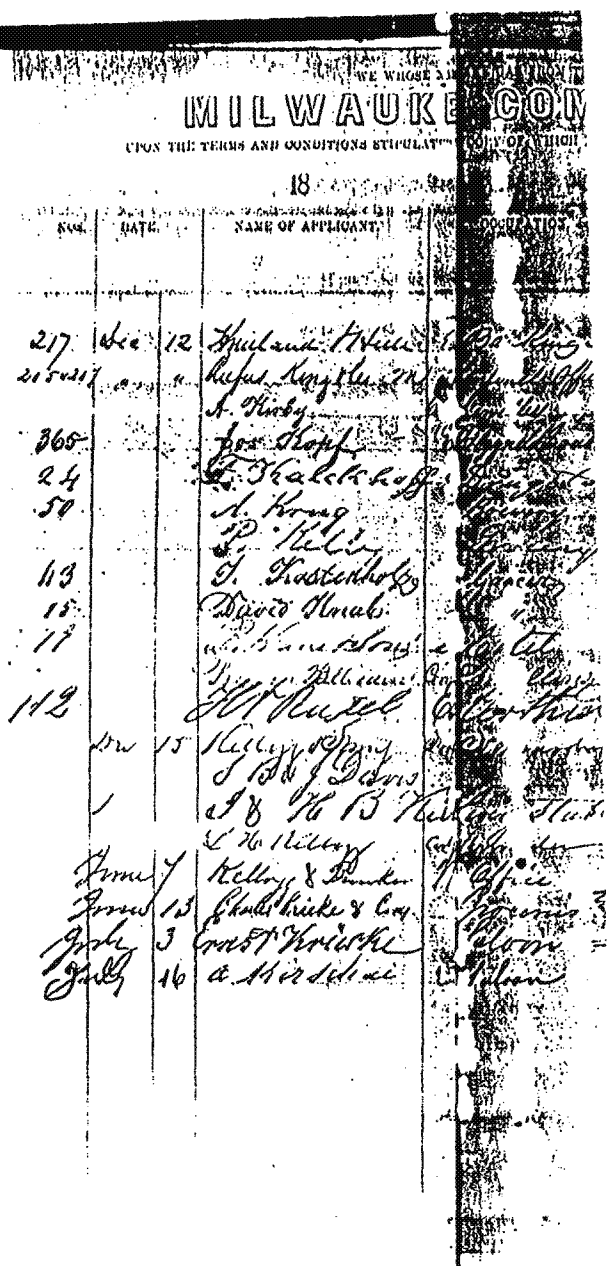
SALUTE . . . *Continued from page 6*

Second, Third and Chestnut Streets — the city's first lamp-lighted area. East Water (now North Water), one of the principal business streets then, from Erie to the City Hall square, became the "great white way of the time." Everyone turned out to parade up and down the streets. Excited and happy Milwaukee welcomed this, the biggest thing that had ever happened to them — a step that put them on an equal footing in one respect, at least, with Baltimore, first city in the United States to be illuminated by gas; with Boston, New York, Brooklyn, New Orleans and a good many others, but especially with Chicago, their "rival" on the south. True, the initial lighting was not without fault. Some of the lamps burned with a blue flame instead of a luminous one — too much air in the pipes, it was said — but, for the most part, the burners gave a "clean, beautiful" light — and everyone was delighted.

Then, as today, so great a step in civic progress called for a celebration. A big one, it was, too — a formal affair in Young's Hall which was brightly illuminated by two huge gas chandeliers as marvelous as the occasion they lighted. All the prominent people of the day were there, eighty of them, headed by Mayor Crocker, one of the speakers of the evening. Byron Kilbourn, Rufus King, editor (later Milwaukee's first superintendent of schools), and Garret Vliet, surveyor and civic leader for whom present-day Vliet Street was named, were likewise there, as was the former mayor, D. A. J. Upham, who presided.

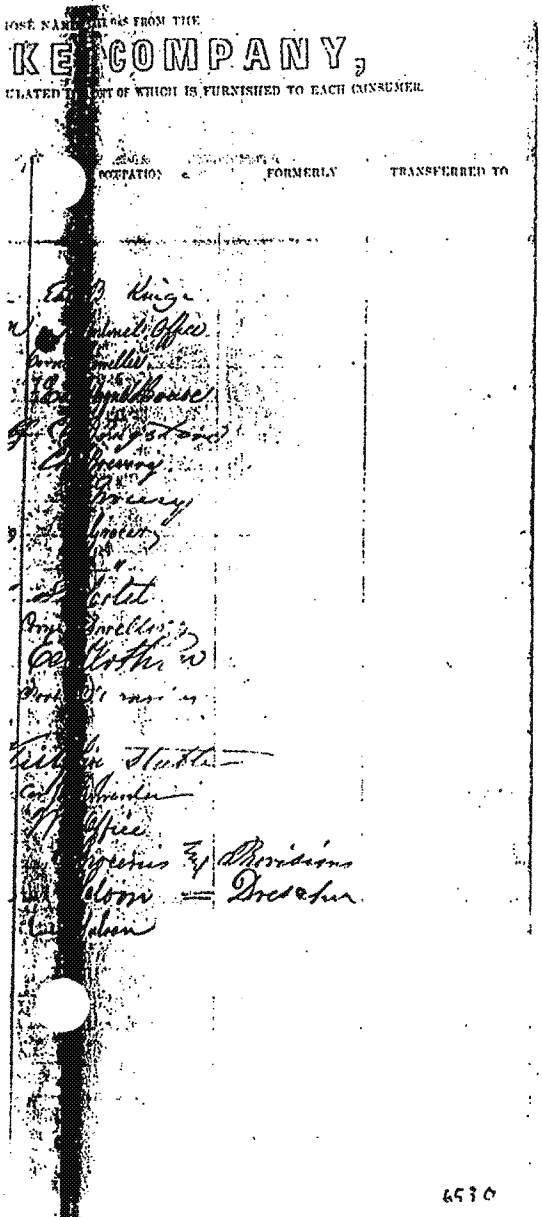
Although the city was virtually the company's sole customer at the time, it didn't take long before a number of business firms decided that they, too, could use a bit of this "magic light." So, when the company, about a month later, invited the public to subscribe for either commercial or domestic lighting service, many of them made immediate application. A glance at the company's application book for December of 1852 shows such names as:

Kneeland & Hall	*Bankers*	4 burners
Rufus King & Co.	*Sentinel office*	2 burners
A. Kirby	*Jeweler*	6 burners
Byron Kilbourn	*Dwelling*	2 burners
T. Weitstein	*Hotel*	9 burners
Solomon Adler	*Clothing*	7 burners
H. J. Goff	*Confectioner*	5 burners



It is interesting to note that among these early applicants were the H. Niedecken Company, John Pritzlaff Hardware Company, Guido Pfister and Company (Pfister & Vogel Tanning Co.) and the American Express Company (now the Railway Express Company), all of whom are still operating today.

Query may be made by the curious as to the reason why only Byron Kilbourn, of the city's founding three — Solomon Juneau, Byron Kilbourn and George Walker — subscribed for the new service. The answer is very simple. Only he, of the triumvirate, lived in the company's service area, at Second and Spring Streets, in the heart of old Kilbourntown, west of the Milwaukee River. As for Juneau, he was no longer a resident, having left, just the year before, to go north — to establish the city of Theresa, some 50 miles away. Incidentally, his home there still stands, high on a



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hill at the edge of town, overlooking busy Highway 41. There seems little doubt, however, that had he maintained residence here, his name, like that of Kilbourn, would also be found among the first entries of the application book. He was a man of wealth, and, as founder of the early Juneautown, he lived east of the river — a section unquestionably served by the company from the beginning of its operations. But George Walker, last of the three, and founder of Walker's Point (an area west of the Kinnickinnic River and south of the Milwaukee and Menonomee Rivers), was not so fortunate. Living as he did in that area, he, no matter how much he may have wanted to light his home by gas, simply could not. The company's facilities were not extensive enough, nor did its contract with the city make provision for service to Walker's Point. He, like everyone else there, was a "victim of circumstance."

Rates for service by the new company were set at $3.50 per thousand cubic feet of gas or $3.75 if paid after the discount date. In addition, there was a nominal meter rental charge. Through the years there have been many rate changes. In 1868, the price of gas service rose to $4.50 per thousand cubic feet, and remained at that figure until 1870 when rates were brought down to $4.00. A year later, to meet the competition of whale oil and candles, the prices of which were very low, and of kerosene lamps which were most appealing, rates were again reduced to $3.75.

As is always the case, the early years of any organization are fraught with difficulties, and the history of the fledgling gas company shows no change of pattern. Drastic changes in management which occurred in the second year of its existence only added to the company's mounting problems.

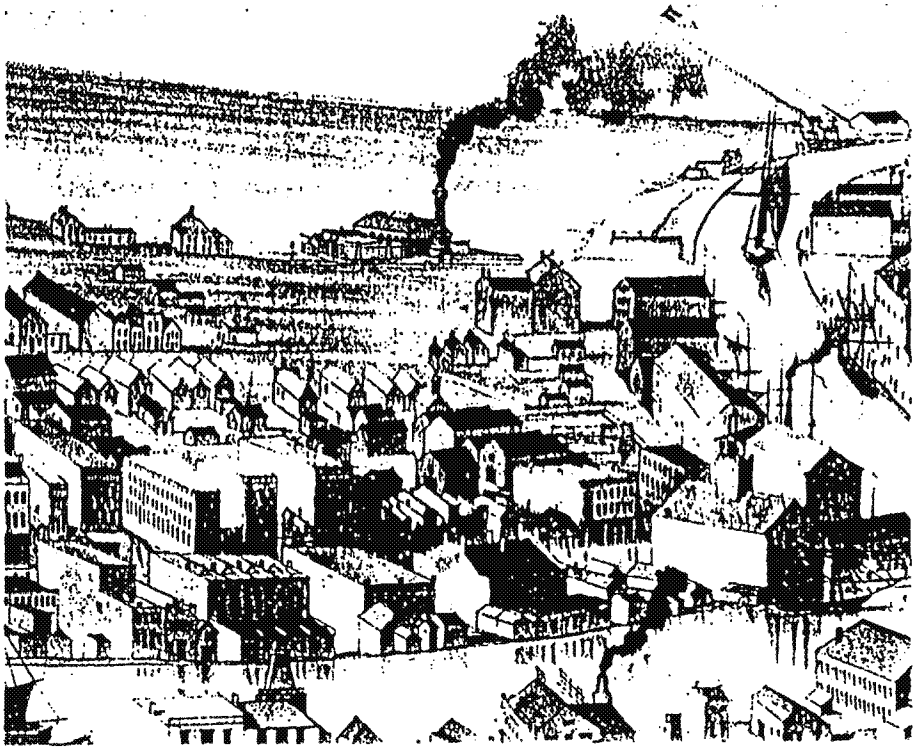
Day by day, the clamor for gas service by the people living on the south side of the city grew increasingly louder. But the company, unfortunately, was not in a position to do anything about it. It had all it could manage just to maintain and improve service as well as to make necessary extensions in its operating territory. Exasperated by the situation, the Common Council, in 1856, adopted a resolution whereby application was made for a charter authorizing the incorporation of a gas company for the sole purpose of serving the people of the Fifth Ward, which then encompassed the city's south side.

Although the granting of such authority violated the company's franchise, there was little that could be done. Therefore, on March 6, 1856, the legislature passed an enabling act whereby creation of a Fifth Ward Gas Light Company was made possible. The right of perpetual succession was granted, and a capital of $100,000 was authorized. Moreover, "power and full authority for twenty-five years to make and sell gas in the Fifth Ward of the city" was bestowed. Jasper Humphrey, John Rosebeck, Stoddard H. Martin, Andrew Mitchell, Hiram Merrill, J. Sherwood and William A. Hawkins were named as incorporators. Hawkins shortly thereafter was made president, Merrill, secretary, and Mitchell, treasurer.

Again, John Lockwood was called upon to build the gas plant. Within seven months, the

Third Ward Works

1853



The Third Ward Gas Works dominated the swamplands of the lower East Side.

new company was operating with a works, 100 x 140 feet, on the southwest corner of what is now South Second and West Bruce streets. Three miles of main were laid and rates were set at the same level as those of the Milwaukee Gas Light Company.

Meanwhile, things did not remain stagnant at the east side works. The legislature, two years before, had authorized an increase in the company's capital stock and subscriptions for it, along with a series of bond issues, provided the necessary funds for a much needed expansion program. Additional lots were purchased and the first in a series of major changes was begun. The retort house was almost doubled in size, benches were installed in the six extra furnaces originally provided for, but not used at the time the plant was built, and six new benches of three retorts each were set up. The old purifiers were replaced by four new ones and the works capacity was increased to 80,000 cubic feet, capable of expansion to 120,000 cubic feet a day with the then existing facilities.

Thus it was that in 1857 when a proposal was made to form another company, the Wisconsin Gas Light Company, to provide service for the entire area west of the Milwaukee River, the Milwaukee Gas Light Company was able to block it. After all, the directors maintained, a sizeable portion of that territory was already being served by the company, and new extensions were even then being planned for the following year. The company had been given a franchise to serve both the east and west sides of the city, and it intended to do it. The legislature apparently realized the sincerity of the company's promise to extend its service, for it withheld authorization of another organization. By March 31, 1857, the company had 889 customers. Its fiscal report furthermore showed that the gas send-out for the past twelve months had been 16,290,000 cubic feet, of which 11,630,000 cubic feet had been for commercial and domestic purposes; 1,700,000 for city use. Two years later, total sales had grown to over 18,000,000 cubic feet, the company having fifty-six retorts in service, seventeen miles of main, and 1,334 customers.

Even as the Milwaukee Gas Light Company was growing, so, too, was the city. Despite the depression that had settled over the country in '57, and the mutterings of war that already were filling the air, Milwaukee was progressing. She,

some months before, had made her first shipment of wheat direct to Europe — 16,000 bushels of it aboard the sailing vessel, the *Dean Richmond,* bound for Liverpool. Not only was this the first of such shipments direct from Milwaukee to Europe, it was the first from the Great Lakes region, and marked the beginning of the city's rise as one of the great wheat centers of the nation.

She had long since replaced her original floating bridge which spanned the river at Wisconsin and Spring Streets (Wisconsin Avenue) with what was then something rather revolutionary — a swing type affair. She had worked on her streets to improve them, and while some were paved with cobblestone, the majority of them were paved with cedar blocks. The first horse-drawn streetcars were regularly rumbling down East Water Street from the bridge to Juneau Avenue. The fire department had been enlarged and the city now boasted a police department as well, with a chief, William Beck, and 25 men. The new, three-story marble government building housing the post office, the United States Court and other Federal offices had but recently been opened, and the Milwaukee Chamber of Commerce (organized October 22, 1858) was already playing an active role in the daily business life of the community, now grown to some 45,000 citizens.

A lake connection with the Detroit, Grand Haven and Milwaukee transportation line had been established, with the initial run of *The Detroit* and *The Milwaukee,* the *Black Boats* as they were popularly known, being made in August of '59. It is said that the boat company dock was near that of the Gas Company (in later years) on the Milwaukee River. Even more interesting is the part these boats played in the mail delivery of the day, for on them was established the first marine post office in the U. S. interior. For four years, 1860 to 1864, this pair of lake steamships carried all the mail between the East and Wisconsin, Minnesota and northern Iowa.

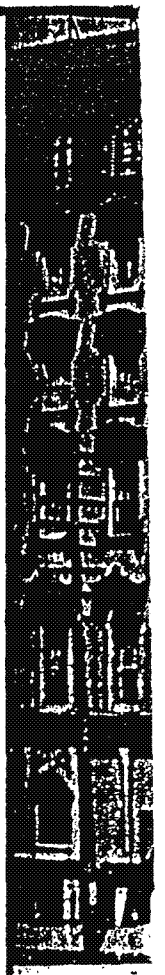
Perhaps the two highlights of the period might well be said to be Abraham Lincoln's visit to Milwaukee in the fall of 1859 (his second to the city and third to the state), and the sinking of the *Lady Elgin* by the schooner *Augusta,* on September 8, 1860, with a loss of 300 lives, mostly Milwaukeeans on their way back from a day in Chicago. Considered one of the greatest lake disasters of all time, it has served as the subject of many a poem and song.

Of Lincoln's visit it might be pointed out, that he came here by invitation, for he was to address the fair of the State Agricultural Society of Wisconsin at the fair grounds west of 10th Street, between the North Wauwatosa Plank Road and Spring Street. A plaque today marks the spot where he stood to deliver his message. It is on the west side of 13th Street, about halfway between Wells and Kilbourn. As history records it, no provision had been made for a speaker's stand, so Lincoln unhesitantly climbed upon a wagon and, for an hour or so, spoke not of politics but of agriculture and things of interest to the gathered farmers. For this he was given a check for $100.00, an extravagant sum in the opinion of many who were heard to grumble: "one hundred dollars for a single hour!"

Perhaps, though, his greatest message of the day was that which he delivered extemporaneously later at the Newhall House (one of the city's newest and finest hotels), for it was there, memoirs of early Milwaukeeans show, that he spoke on the slavery issue, expressing many of the views he held

Continued on page 18

1852	Milwaukee Fire Dept. Expenses (through November 23) .....$ 852.00 Estimate ..... 2,500.00 Expenses (1951 operating) .$3,960,588.92 Budget (1952) 4,383,601.00
1853	Adalina Patti, celebrated concert star, appeared here at Young's Hall
1853	Farmers and Millers Bank organized, the forerunner of the First Wisconsin National Bank
1854	Bank of Milwaukee founded. Reorganization and merger with the city's first bank later created today's Marine National Exchange Bank
1861	The Association of Commerce was formed



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in his debates with Stephen Douglas. Indeed, it is said that his talk was approximately that of the Cooper Institute speech he delivered a few months later. At any rate, records show he did warn, even then, of the danger of a nation divided on a basic issue, for he said: "I do not believe that the Union can permanently endure half slave and half free." Little did Milwaukee realize to what heights this man who stood before them then would some day rise. For that matter, neither did Lincoln, for he was as yet but a little-known lawyer.

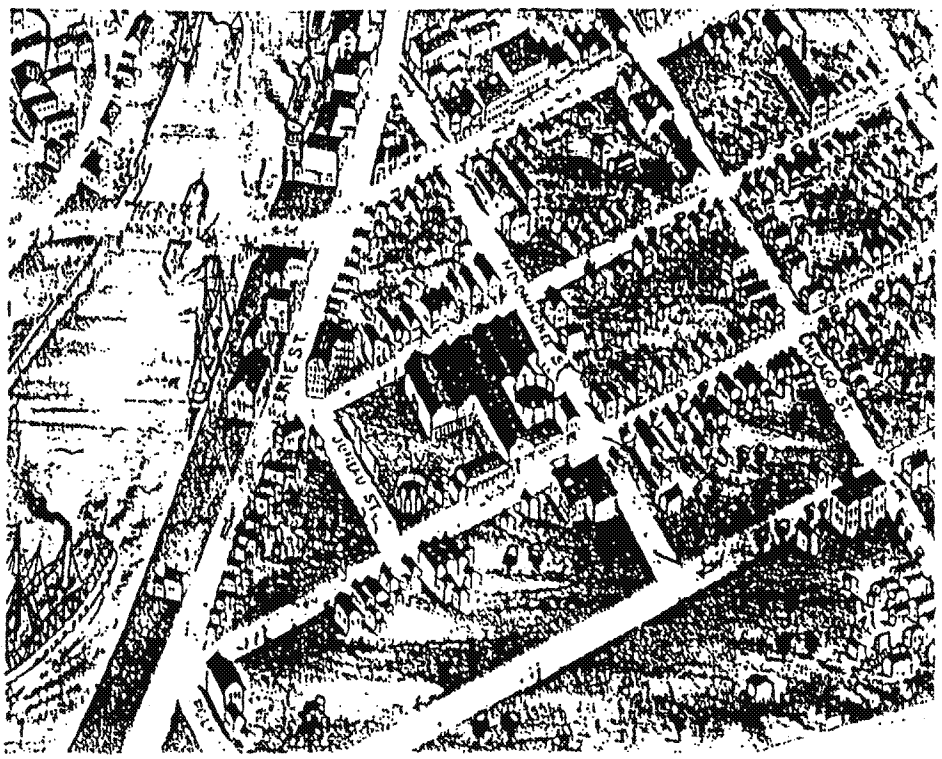
Along with the changes the years brought to Milwaukee, changes came likewise to the now well-established gas company. Additions and revisions were made from time to time at the works, but perhaps the strongest indication of its progressiveness as a corporation was its ability to acquire, in January, 1864, its sole competitor, the Fifth Ward Gas Company — lock, stock and barrel. In serious financial difficulty since 1862, the Fifth Ward Company lost control of its stock, more and more of which found its way into the hands of Eliphalet Cramer, then president of the Milwaukee Gas Light Company. The situation became such that it required nothing more than legal formality to effect the acquisition.

Although small as a corporation, the Fifth Ward Company did have a rather sizable plant investment, and had, in 1861, sold more than 1,000,000 cubic feet of gas to private consumers plus more than 700,000 cubic feet to the city. For almost six months after it was absorbed by the Milwaukee Gas Light Company, it was operated as a unit. However, in June of 1864, a pipe was laid across the Milwaukee River, thereby connecting the distribution system of the old Fifth Ward Gas Company with the Jefferson Street plant of the Milwaukee Gas Light Company. A year later, both the property and the buildings were sold.

The Civil War, like all wars, added further burdens to the Gas Company. The cost of coal increased from $4.30 to $9.26 a ton. A government tax of 20c per thousand cubic feet of gas consumed brought forth angry protests from numerous customers. But, with the coming of peace and the reconstruction period, the company again began to prosper. Indicative of this is the increase in salary granted to the president. At the time the company was organized, the salary was set at $100.00 a year. In 1859, it was increased to $500.00; in 1865 to $1,000.00 and in 1867, to the phenomenal sum of $2,000.00 a year. Further evidence of company prosperity can be seen in the fact that, along with an expansion program which called for crossing the Menomonee River, old mains were taken up and replaced with new ones twice their size.

Not many years after this, the company began to pioneer in another direction. Gas for lighting was well established; it was time to introduce gas for other purposes, and cooking seemed to be the most logical. Although there are no records to indicate who first used a gas range in the city, it is known that a number of ranges made in England were in early use here. The Milwaukee Gas Light Company itself took initial steps to promote cooking by gas in 1878, purchasing at that time, fourteen stoves and four ranges from the W. W. Goodman Stove and Range Company, Philadelphia. Unlike today, the company served merely as a middleman in the project, leaving the entire sales responsibility resting with the city's merchants — a format that was followed until 1890 when the company acquired a full stock of ranges and, with the promotion slogan, "A gas range is a coal range with a college education," actively engaged in the sale of ranges.

The next development of importance came with the company's acquisition of additional property along the river — the south side of Erie, from Jefferson, west. For the first time dock space became available, and coal shipments could be brought in direct to the plant. This was the era of hand unloading. Old-timers tell how buckets were lowered into the hold of the schooner, to be filled by hand and then pulled out by a team of horses. Next they were emptied into small carts, weighed and hauled to the coal sheds on Milwaukee Street. There were no time-saving, labor-saving devices then! But, with the years, this was all to change. In fact, in the spring of 1881, the company undertook to enlarge and improve its existing plant facilities, and, more specifically, to speed up its unloading operations. Records show that not only was a two-story coal shed, with a 5000 ton capacity, erected, but that it was equipped with the then latest hoisting apparatus guaranteed to "unload the largest vessel in two days." The building was so



hird Ward Works

1871

designed that narrow runways extended from the second floor to the edge of the dock, along which coal could be wheeled from the ship to the shed, and dropped to the storage bins through large hatchways. Modernity was, indeed, taking hold of at least part of the old works.

For the next few years this revamping program continued to be carried on to such an extent that by the end of 1885, with the erection of a new retort house on Erie Street and a purifying house on Corcoran Avenue, along with additions to the dock and coal shed, almost an entirely new plant had come into being. At any rate, capacity was doubled, and the facilities then provided apparently were more than adequate to handle any load increases, for it continued to be operated as a coal gas plant until it was shut down on March 12, 1905.

All this activity on the lower east side could only be indicative of one thing: service demands were increasing for Milwaukee was growing. By 1880 the city had better than 21 miles of paved streets, another car line operating on West Water Street, a telephone exchange and a municipal waterworks, the latter set up on property chosen by John Lockwood some twenty-odd years before when he had vainly tried to promote the project in the City Council. Her population was increasing rapidly. More than that, her industrial activities were gaining prominence for statistics show, between 1870 and '80 while the population increased 60%, the number engaged in manufacturing pursuits increased 150%. Moreover, during this same period, there were only thirteen cities west of Philadelphia with more than 100,000 inhabitants, and of these cities, only Pittsburgh and Cincinnati had a larger percentage of population actively engaged in manufacturing pursuits than had Milwaukee. The latter, however, supported much more diversified manufacturing. Indeed, by 1890 records further show that in just one phase of manufacturing operations, the tanning of plain leather, Milwaukee already had become a world leader, producing more of it than any other city in the world — a record she held for many, many years. It might also be pointed out that, at this time, too, another of her present great industrial organizations came into being — the Nordberg Manufacturing Company, an outgrowth of the

Bruno V. Nordberg Company set up four years before by Mr. Nordberg, who, after ten years at the E. P. Allis Company (later Allis-Chalmers), felt experienced enough to go into business for himself.

Despite expanding industrial activities, however, the city managed to maintain a small town community atmosphere, where Gemüetlichkeit and friendliness prevailed. Within the next few years a number of new buildings began to dot the city skyline. Among the largest was the Milwaukee Exposition Building (1881) on the site of the present Auditorium, and even then occupying the entire square from 5th to 6th Streets, between State and Kilbourn, until gutted by fire in 1905. It served much the same purpose as does the Auditorium, but in addition, it housed a permanent art gallery, an industrial exhibit and a splendid North Woods display.

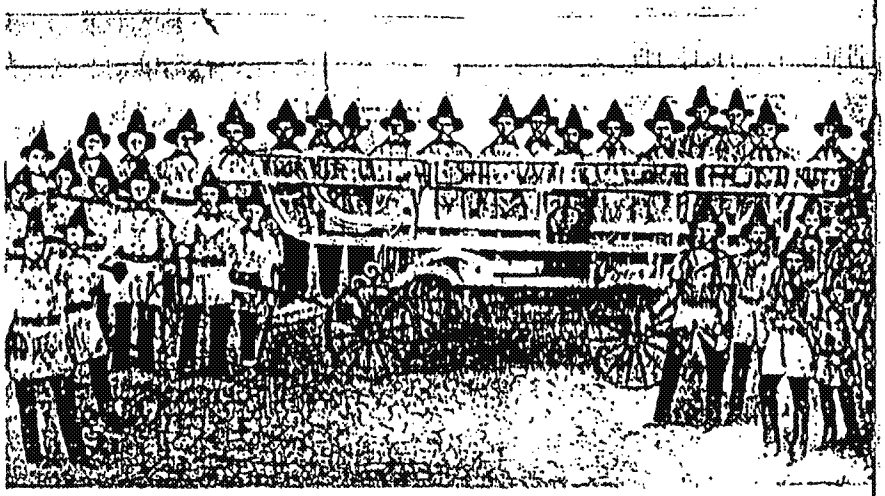
Another of the "landmarks" that came into being at this time was the Pfister Hotel, destined to become not only the scene of many social and civic affairs down through the years, but also to become the *hotel of presidents*, for, up to the present time, every president of the United States who has ever visited Milwaukee since the hotel was built, has stayed at the Pfister. The pride of Charlie Pfister, the hotel was not only magnificent inside and out, but it boasted of a new kind of pavement over which smartly drawn carriages pulled up to its door. It was asphalt — one block long, from Wisconsin to Mason, on Jefferson Street, and said to have been laid as a private project by Pfister himself to "dress up" the main entrance of his hotel. True, or not, it *did* serve as a *test block* and was definitely the city's first permanent pavement.

Then, as now, Milwaukee had her share of civic-minded citizens, interested in her welfare as a city, and anxious for her cultural development. With a public library, a museum of natural history, an opera house (Nunnemacher's Grand Opera House, superseded in '93 by the Pabst Theater), the Davidson, a number of musical organizations and an active Art Society, the need seemed apparent for a place to house a collection of paintings — a spot to which Milwaukeeans could come to study the works of the masters. At any rate, Frederick Layton felt the need to be great enough, for out of his own funds he built the Layton Art Gallery and, with a number of paintings and a sizable endowment, presented it to the city — a monument that still stands to his memory and to Milwaukee's early prominence as a patron of art, music and the theater.

However, while all of this was going on, activity at the Gas Company's Third Ward Works had not become stagnant. Up until this time (more specifically, up until 1890) all of the gas sent out was coal gas, manufactured in the conventional retorts. However, a new water-gas process had been developed, known as the Wilkenson Process. Apparently, it differed from the Lowe Process in use later, in that there was no super heater to mix the two gases while hot, the mixing evidently being done in the relief holder. At any rate, the company was determined to employ the new process here and immediately set about to erect the necessary plant facilities on the north half of the Third Ward Works. But, before the plant could be put into full operation, legal difficulties arose and, as a result, the process was rejected entirely. The company, nevertheless, continued its expansion program over the years, adopted the Lowe water gas process, and endeavored to better its service as demands for gas constantly increased.

It was during this period that the great Third Ward Fire occurred, Friday night, October 28, 1892, which, except for the quick thinking of the men on duty at the gas works, might have resulted in great loss of life as well as irreparable damage to the plant itself. As it was, although sixteen square city blocks were destroyed from East Water Street (now North Water) to the Northwestern tracks, between Erie and Detroit Streets, at a loss of $4,710,255 (a sum, many times greater in today's real estate market values), the gas works for the most part escaped.

True, the company stables burned (none of the horses were harmed, however), and the fire spread to the coal supply, boiler house and engine room, leveled the carpenter shop, and damaged pumps, scrubber room condensers and belting. But, for all of that, the fire did not reach the coal gas plant, nor did the works blow up as panic-stricken residents of the lower east side believed it would, thanks to Tom Powers, foreman of the water gas plant, and Bill Tanner, foreman of the coal gas



Members of Milwaukee Engine Co. No. 1 beside an 1855 engine.

plant. It was Powers who ordered the plant shut down and the holders lowered by increasing the pressure on the mains when it became evident that the fire was spreading to the lake and would soon engulf the works, while Tanner stopped the firing of the retorts and opened the charging doors to permit the gas to burn up. To them and to the men on duty that night — Pat Regan, Charles Engles, Nils Nilson and Tom Johnson, full credit must be given for not only fighting the fire as it spread through the plant but in preventing a major disaster. Although service was temporarily disrupted because of damage to the water gas plant and the storage of personal property in the retort house, put there for safekeeping during the fire, it wasn't for long. Late the next afternoon, gas began to enter the mains and by Monday of the next week, full operation was resumed.

Continued on page 40

Third Ward Fire

440 buildings — 185 freight cars on Northwestern tracks destroyed

16 square blocks burned

1,893 families made homeless

As a 50 m.p.h. gale whipped flames into a raging inferno, 16 Milwaukee engine companies and 240 city firemen, aided by men and equipment from Chicago, Oshkosh, Kenosha and Racine, fought the conflagration. Police and 200 national guardsmen also were called into action as thousands fled, panic-stricken over a possible gas works explosion. The red-tinged sky, it is said, was visible 30 miles away.

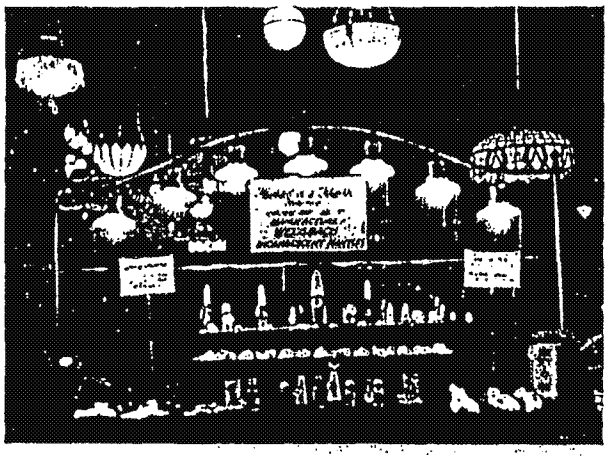
Engines like this helped to fight the Third Ward fire.

PHOTO COURTESY OF THE MILWAUKEE JOURNAL

SALUTE...*Continued from page 23*

It was during this era, too, that Carl von Welsbach developed a new type of gas mantle to which he gave his name. Capable of 50 to 75 candle power, the mantle made it possible for gas to give a whiter, brighter light than ever before. Because of this, it added years to the life of the industry at a time when the potentiality of electricity as a source of light had already been demonstrated — at the World's Fair in Chicago, in 1893.

Although there were no major changes made at the works from 1896 to 1900, the next ten years thereafter were filled with many construction activities, the old Third Ward plant undergoing complete revampment to make ready for a change-over to a water gas plant and later a purifying



station for Solvay gas. The latter was supplied by the Milwaukee Coke and Gas Company (forerunner of the Milwaukee Solvay Coke Company) under contract to the Milwaukee Gas Light Company. The plant itself had been built in about 1905 1902

The company's West Side Station

by the Schlesinger interests, and stood at the foot of Greenfield Avenue. After a number of ownership changes through the years, the company was finally acquired by the Milwaukee Gas Light Company on January 3, 1947.

The entrance of the American Light and Traction Company into the local operational picture in 1900 was the beginning of a great expansion era. Much construction was started and many improvements in operating methods were made. Although the Milwaukee interests had been sold as far back as 1896 to Emerson McMillin, founder of the American Light and Traction Company, the first utility holding company in America, the latter did not actually take control of the Milwaukee organization until four years later. Immediately thereafter, plans were made for further plant development. As a result, at the West Side Works, North 25th Street and West St. Paul Avenue, the property of which had been acquired by the company back in 1886 and only partially developed, a new coal gas plant and retorts were set up. It marked the beginning of a transition period from the manufacture of coal gas — to the coke era — to the liquefied petroleum gas period and eventually, the introduction of natural gas to the Milwaukee area.

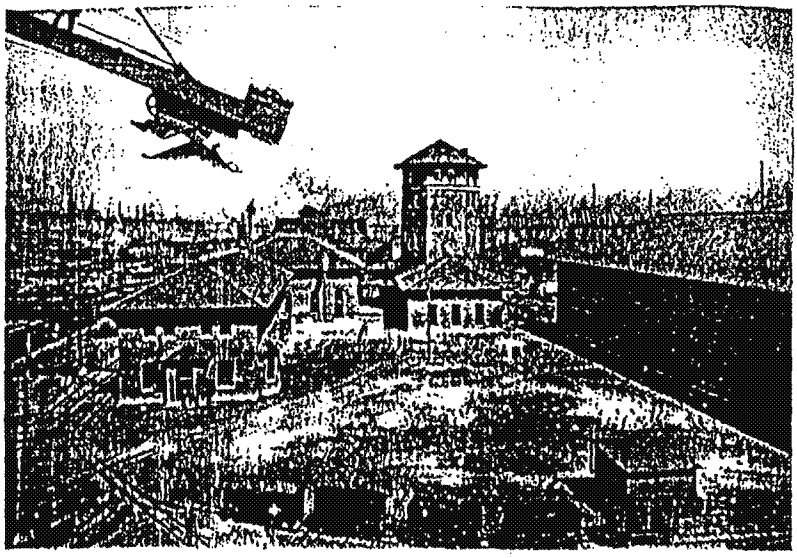
Although busy with its building projects and expanding service, the company did not lose sight of the necessity for development of other phases of the industry, namely, heating and industrial gas usage. As early as 1890, the company offered heating service to those who might want it, but, for the most part, its cleanliness and economy as a heating measure remained untried, or almost so, until much later. However, this situation did not hold in the realm of commercial cooking. Intro-

duced to the hotel and restaurant chefs between 1900 and 1910 as the ideal means for quantity food preparation, gas, at first, it is true, met with some resistance, but soon took hold as more and more "courageous" chefs tried it and enthusiastically proclaimed its advantages.

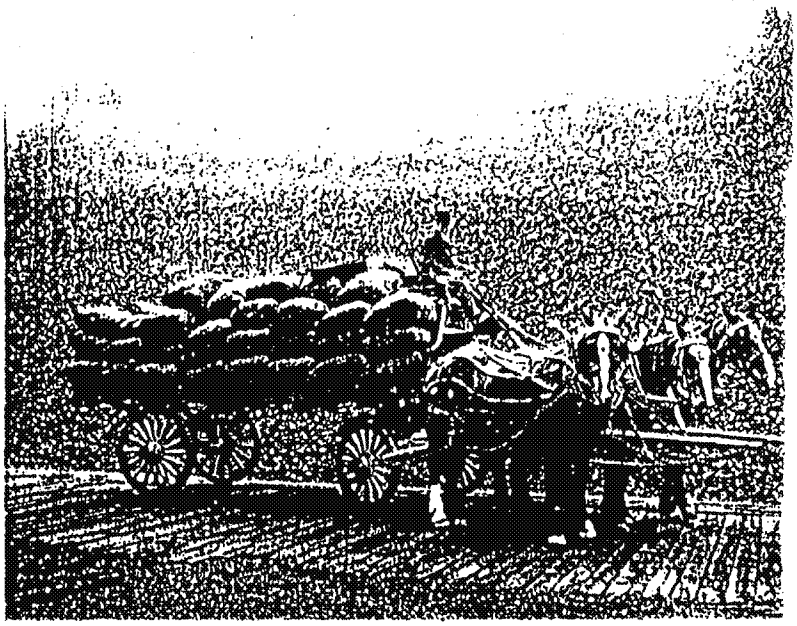
The industrial adaptation of gas was not so long in taking hold, for manufacturers readily realized its superiority and used it freely in the heating of small appliances – soldering irons and the like, and, as newer applications were developed, they were accepted too. As early as 1911, for example, the International Harvester Company here was regularly using a million cubic feet of gas per month. Today, it uses approximately 25,352,000 cubic feet in a like period.

Through the years industrial use of gas grew tremendously, and it quickly spurted to even greater heights with the introduction of natural gas a few decades later. But, even with this heavy concentration on industrial application of gas, engineers were striving to perfect new domestic uses of it as well — first as a means of heating water, then for refrigeration.

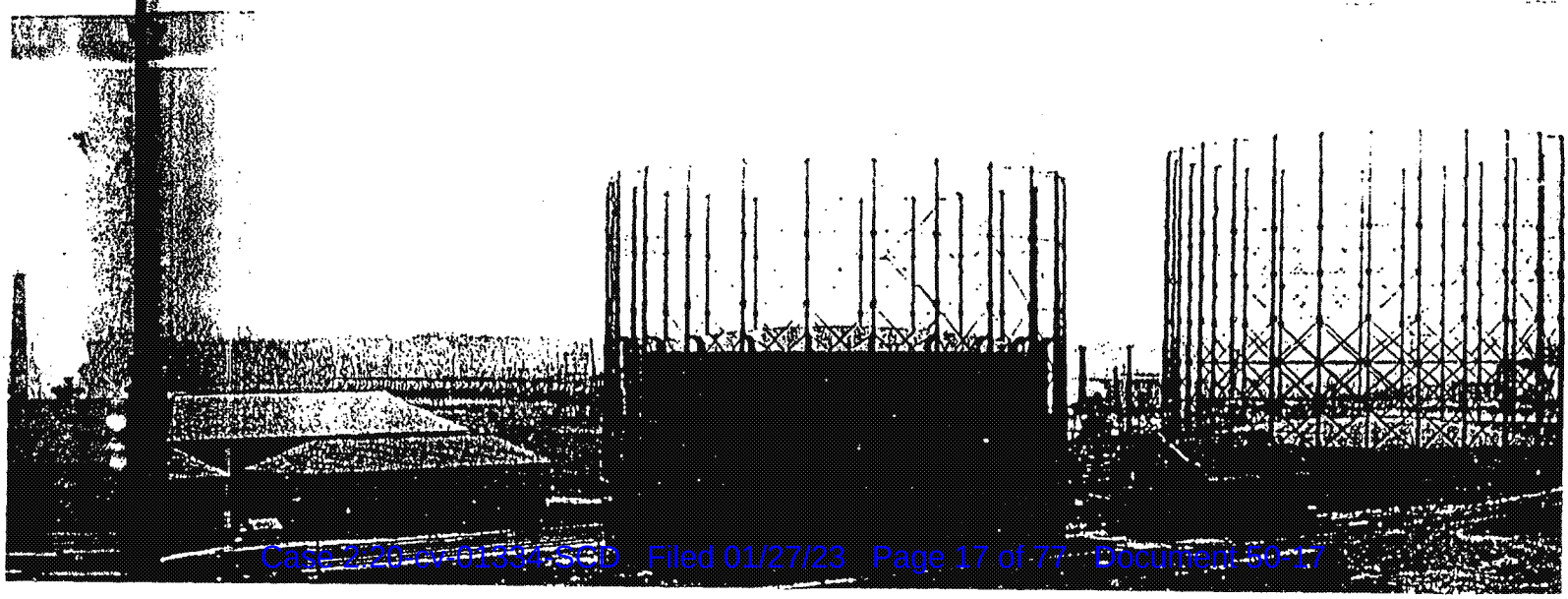
It is interesting to note, too, that despite the fact that larger and perhaps even more important harbors serve the country, their lighthouses guarding the safety of mighty ocean-going vessels, even in the early years, it was the North Point lighthouse in Lake Park, right here in Milwaukee, that became the first gas-lighted lighthouse in America. It was in 1913 that the United States Lighthouse Service opened negotiations with the Milwaukee Gas Light Company for gas service to the North Point lighthouse. After a thorough investigation of its ability to provide an unfailing source of

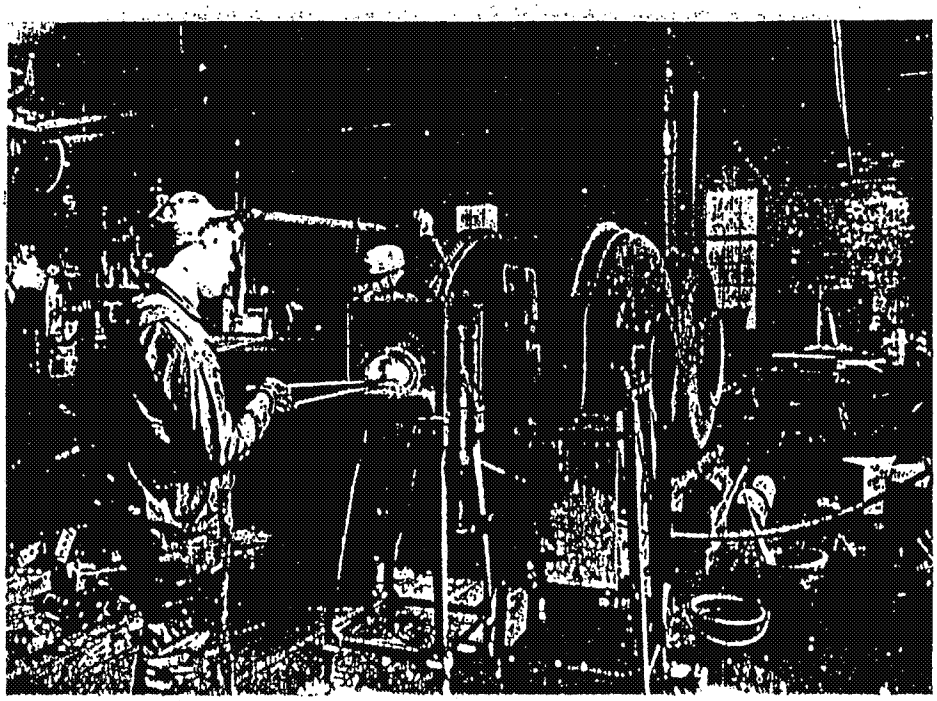


Coal trains, such as this, supplanted the old hand methods of moving coal from ship to storage sheds.



Coke, once a useless by-product of coal gas manufacturing operations, was given to the public (later sold at a minimum figure) and hauled away in big, horse-drawn wagons.





Rivet heater at Kearney Machine Company

supply of gas, the company was awarded the contract, and from that date until the lighthouse was equipped for electrical operation, it was renewed each year with unfailing regularity.

Although the 1900's saw the emergence of the Milwaukee Gas Light Company into a truly great utility, the period, as a whole, is bereft of the color and excitement that marked its early years. It has been, in fact, most aptly termed the "dark ages" a period highlighted only by steady growth, an age of development from a fledgling gas works to a multi-million-dollar organization; from the rented rooms of its first office location to a towering 20-story building of its own, requiring one year to construct at a cost of approximately two million dollars. It was an era, too, in which the needs of the fast-growing suburban areas forced the formation of a number of affiliate companies to serve them, not because of financial inability on the part of the company this time, but because of an inherent clause in the franchise which forbade service beyond one mile of the city limits.

Thus it was that the Wauwatosa Gas Company was incorporated in July of 1901, the West Allis Gas Company in December, 1903, the Lakeshore Gas Company (serving the Whitefish Bay area) in April of 1925, and the Milwaukee Suburban, June, 1926 (renamed the Wisconsin Eastern Gas Company on February 1, 1927) which served North Milwaukee and the communities immediately north of the city as far as Port Washington, Cedarburg, West Bend and Hartford. In due time, however, all of these affiliate companies were consolidated into one unit (July 31, 1939) under the name of the Milwaukee Gas Light Company.

Even as the Gas Company was digging its roots deeper into the community life of the city, so, too, was Milwaukee developing into a metropolitan center. The days of the cutter races down Spring Street, and the torchlight processions that were an integral part of every big political campaign — all had long since become things of the past. Great stores took over where tiny merchants for years had vended their wares — the problem of the chain store system versus home ownership was argued vociferously and often.

During this time, too, the city had won her first National Safety Council award, and her police department was already recognized as one of the nation's finest — the fire department one of the best-equipped. Her well-planned park system was one of the largest and best in the country, and recreational facilities and programs were being developed vigorously.

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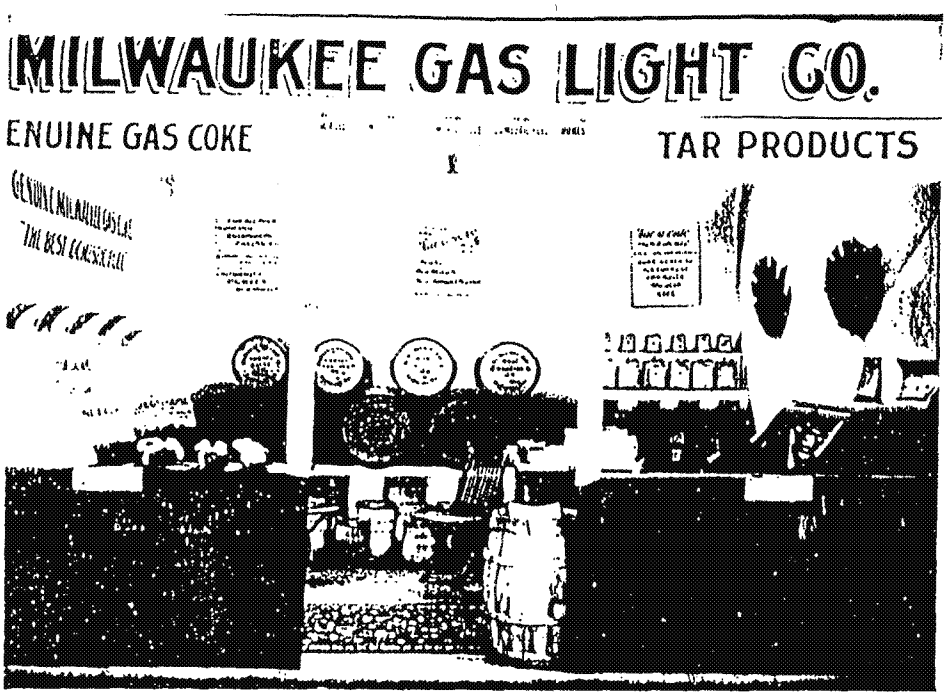


An industrial exhibit of coke products. The coke in those days was sold directly to the public in retail and carload lots by the company; the by-products to the Barrett Mfg. Co.

SALUTE . . . *Continued from page 11*

Skyscrapers like the Gas Company, Wisconsin Telephone Company and First Wisconsin National Bank Buildings, the Mariner Tower (now the Wisconsin Tower), the Schroeder Hotel, the Wells and Herman Buildings (the latter now called the Railway Exchange Building), along with huge department stores and office buildings gave her downtown business and shopping districts a most "big city" air. In industry, in business, education and civic development, Milwaukee had indeed, in the twenties and thirties, grown up. But, her future like that of the Milwaukee Gas Light Company, held even greater advances in store.

By the late forties the company had expanded tremendously. Where once it had but six miles of main and the city's only customer

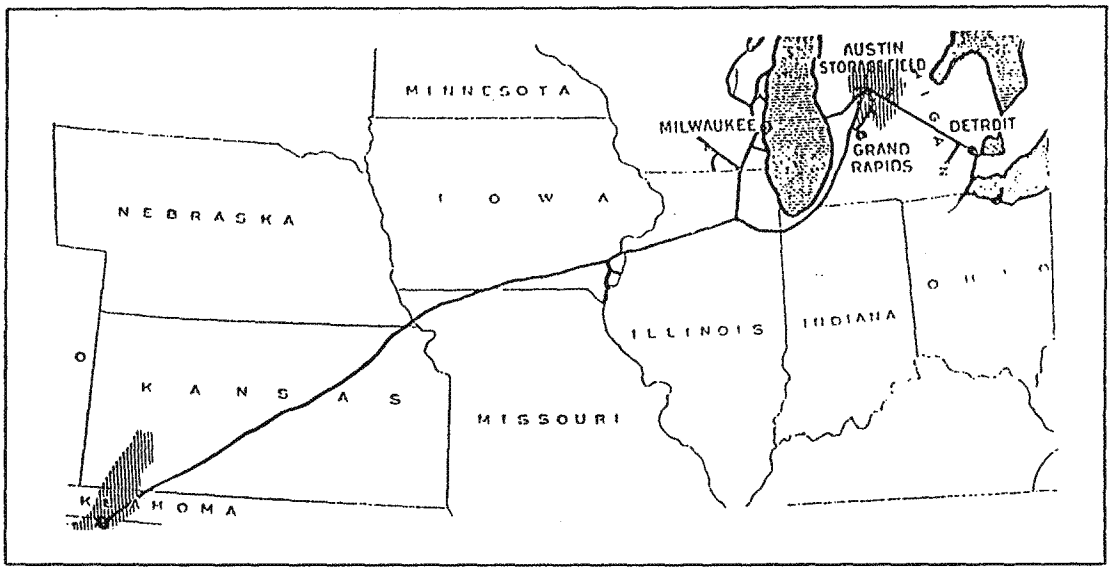
it now had 1600 miles of main and more than 200,000 regular users of gas. Its Third Ward Works had long since been revamped, and now included a carbureted water gas production plant, a purification plant, a meter testing and repair shop, consumers' appliance service and fitting shops, as well as garages, a storeroom, a district regulating station, pumping units and two holders.

The West Side Station maintained four storage holders having a total capacity of 21 million cubic feet, a pumping station, coal docks and general storage facilities, while the North Shop, or Cameron Avenue Station, served primarily as a compressor and pumping station to serve the northern part of its territory. Together, they comprised the company's complete plant operations.

Coke plant at the foot of West Greenfield Avenue.

New Horizons . . . With Natural Gas

By the fall of 1949 a new and even greater era was about to begin. The years of manufactured gas were at an end. The long, hard and sometimes bitter fight to introduce natural gas into Milwaukee and Wisconsin had finally been won. Opposition forces, and there were many, had, at last, been brought to see that natural gas would be a boon to industry — to domestic and commercial users alike. Common Council objections were hurdled and legislative action hindering its introduction was repealed. Ten years of wrangling and a city referendum indicating the Milwaukee voters' stand in the matter, had finally culminated in the approval, by the Public Service Commission of Wisconsin, of a change-over to natural gas by the Milwaukee Gas Light Company and seven other state utilities. The date was April 8, 1948.



Although the city did not give formal approval for the laying of the necessary pipelines within its corporate limits until September of the following year, actual field construction had begun a good many months before. The first of the 1100 mile pipeline from the Hugoton natural gas fields in the Kansas, Oklahoma and Texas area, was laid in Hansford County, Texas, in late December, 1947. Put down by the Michigan-Wisconsin Pipe Line Company, this great natural gas artery inched its way from northeastern Texas, across northern Oklahoma, Kansas, the tip of Missouri and a part of Iowa into Illinois, branching there north to Wisconsin, and southeast through Indiana, on to its termination point in west-central Michigan, where a feeder line carries service on to Detroit.

It was a difficult task beyond doubt, for the terrain was not conducive to pipeline operations. Rivers had to be crossed, swamplands drained, the open prairies crossed. Rocks and trees had to be uprooted and hills graded, but the outcome of this battle of man against Nature and the elements (work went on winter and summer alike) was unquestioned. It could only be the kind of result that experienced men working with powerful equipment and quality materials, following a well-engineered plan, could produce. At any rate, the big 24-inch pipe was laid, not in "straight-as-an-arrow" fashion, but, of necessity with a slight curve here and there, though with no right angle bends. Surprisingly enough, for all the obstacles encountered along the way, work progressed ahead of schedule.

Back in Milwaukee, crews labored feverishly to install the necessary 22-inch feeder lines, some 15 miles of them, needed to carry the natural gas from the pipeline delivery station to the company's distribution system. Meanwhile, construction was begun on the delivery and sub-stations and every effort was made to correlate progress of the work here with that of the pipeline itself, so that everything would be in readiness for operation the moment the last foot of main was laid and conversion fully completed.

A gigantic undertaking, the conversion of appliances involved the acquiring and training of an efficient organization (approximately 1300 workers) to recondition each appliance using manufactured gas to the use of natural gas. Moreover, it meant that more than one-half million gas appliances — stoves, refrigerators, water heaters, and the like — had to be carefully serviced before the change-over could be made. A four and one-half million dollar project, this Herculean task, nevertheless, was completed in record time — just a matter of a few months, in fact, the work beginning September 26, 1949, and finally being completed January 8, 1950.

The long-awaited day when all was in readiness for the introduction of natural gas to the Milwaukee area came in the fall of 1949, just a few months under two years after the first shovelful of dirt had been turned over. Conversion was begun in an area in the far southwest part of the county, and quickly followed by section after section, until finally all of the territory had been changed over to natural gas service. In the early stages before the big pipeline was completed, natural gas was obtained from the Chicago District Pipeline Company, but, by late October, the cross-country line was put into operation and natural gas, at last, flowed direct from its source into the homes, hotels, factories and business houses of the city and suburbs. As is always the case when something new is introduced, adjustments had to be made. But, eventually, all was in order and the city, as well as the outlying districts in the company's service area, settled down to enjoy and to put to work — *natural gas*.

Although from then on, natural gas was to serve the city's users, the company, nevertheless, took steps at once to provide for uninterrupted service in case of an emergency. This action took the form of continued plant operation on stand-by basis. The coke plant, for instance, was kept going at full capacity, manufacturing its normal amount of coke oven gas, most of which is taken on an interruptible basis by the Milwaukee sewage disposal plant. The latter, dually-equipped with gas and oil facilities, can quickly switch over to oil on very short notice, thereby allowing the full supply of daily coke oven gas output to be sent through the city mains should an emergency situation arise through a break in the natural gas transmission line. In addition, the Third Ward Works, which has been converted to high b.t.u. oil-gas operation, and the West Side plant — a liquefied petroleum storage farm - both stand ready for service in the event of an emergency.

With the introduction of natural gas and the many refinements made in home appliances — stoves, refrigerators, clothes dryers, water heaters, disposal units and heating equipment — domestic consumption of gas increased tremendously. But it is in the industrial gas field that the company has made its greatest strides. Unquestionably, gas today is the fuel of industry, and Milwaukee, undeniably, has much of that.

The users of gas are many - almost as diverse as the types of manufacturing enterprises it serves. From the heavy machinery and electrical equipment groups, to the paper products fabricators, the malting industry and the can companies - gas performs many functions. Even the bakery and food groups — the meat packing plants, the breweries and the small tools industry find gas a helpful ally.

Indeed, though recognition of the advantages of gas in the industrial field came early, actual application was, in many instances, slow in taking hold. But, during the past few years, more and more acceptance has been noted, and today, Milwaukee Gas Light Company serves thousands of industrial users regularly. Commercial groups — stores, institutions, schools, hotels and the like, also consume huge quantities of gas daily in one form or another, with the domestic user, as always, remaining the primary company market and its first concern.

From the early stages of corporate existence, with very limited service and few customers, the scope of the company's operations has expanded to the extent that today more than 1,889 miles of main and feeder lines, in a service area of 544 square miles, bring to industry — to business and to the homes of 225,706 customers, gas, "the fuel that does everything better — naturally."

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Milwaukee Solvay News

November 24, 1943.

TO ALL EMPLOYEES OF
MILWAUKEE SOLVAY COKE COMPANY:

Inasmuch as this is the last issue of the Milwaukee Solvay News before the Christmas Holidays, I extend to each and everyone of you and your families my best wishes for a very pleasant holiday.

To our boys who are in the Service we wish to assure you that all of us appreciate your efforts and assure you that we, on the Home Front, are doing everything in our power to assist you and our Country. It is the wish of all of us that the War will end soon so that you may return and rejoin our active operating family.

Cordially yours,

PRESIDENT.

ON THE FIGHTING FRONT

SGT. ROBERT MAMEROW
Seymour Johnson Field, North Carolina

has attended the Aircraft Recognition School and become an instructor. Bob now has two classes a day which he instructs. He said the study and effort has proved worthwhile and suits him fine. The course he teaches runs for twenty-four days and covers many types of aircraft, both Allied and Axis.

CPL. ROBERT PECHANACH
Perrin Field, Sherman, Texas

returned to camp and underwent an operation for a rupture. His trip back to camp was a fine one and he was surprised to find the trains not quite as crowded as he expected them to be. We wish you a speedy recovery from your operation, Bob.

PVT. CHESTER CZYSZ
Camp Crowder, Missouri

was unable to visit the Plant again before leaving after his recent furlough, due to all the visiting with relatives and friends he did. Chester ran into Edward Virgil at the camp theater. Ed is cooking during the daytime and ushering at the theater at night.

ARTHUR C. SALANI S 2/c
c/o Fleet Post Office, San Francisco

was pleased to receive the news bulletin and enjoyed reading the topics of the Home and Fighting Front. Art has had trial runs out to sea and found it to be an interesting experience. He says the food has been good and would like to write articles of interest, but for the safety of all concerned is unable to do so.

ANTHONY STAJMIGER E. M. 3/c
Montauk, Long Island, New York

is doing maintenance work with A. C. current. Tony tried to get into the Aviation field, but no draft for an aviation electrician was received from Washington. He enjoyed visiting New York City one week-end, where he saw the Normandie, a Jack Benny broadcast, and went to the very top of the Empire State Building. He is wishing for another opportunity to visit New York again. Congratulations, Anthony, on your promotion to Electrician Mate 3/c.

MARCO SINYAKOVICH F 3/c
Shoemaker, California

had a good trip, after his recent leave on his completion of boot training, to California. Marco says he enjoyed good meals on the train. Congratulations are due him on his promotion to Fireman 3/c.

SGT. CHARLES STRUCK

came all the way down from Whitehorse, Alaska, to spend a furlough here with his wife and folks. Charlie reports many interesting occurrences, but owing to the censorship required on any information concerning the war effort, he was unable to go into detail. However, he did say that when he left the North country, they had about one and a half feet of snow on the ground.

SGT. RICHARD JACOBS
Kellogg Field, Battle Creek, Michigan

came back to the Plant a sergeant and an aerial gunner of the 394th Bombardment Group. Dick left here about a year ago when he held one of the minor positions in the office. He looked young, which he was, and we did not think him mature enough at that time to occupy some of the more important jobs ahead of him. But, Dick has changed, he comes back to us as an aerial gunner, as a boy changed into a man, as one who is about to assume the duties which include hardships, endurance, and bravery requiring the best this nation can produce. Until Dick got in the Army and expressed a preference for the aerial gunner job, he never shot a gun before in his life and had never flown in a plane. Nine months has made him an expert in gunnery and a soldier with many hours of experience in flying.

P.F.C. GEORGE WHITE
Chanute Field, Illinois

was married on November 6th, to Ellen Kortsch. Congratulations, George.

OUR SYMPATHY TO MR. ARTHUR HENNELL

Mr. Arthur Hennell recently received a telegram from the War Department that his son, 1st Lieutenant Leonard C. Hennel was seriously injured in action over Italy on October 1, 1943. On October 30, he again received a telegram from the War Department notifying him of the death of his son on October 3. Lieutenant Hennell was a navigator on a Liberator. He enlisted on March 18, 1942, and was sent overseas March 8, 1943. He saw action in Africa, Tunisia, Sicily and Italy, and took part in about thirty-five bombing missions.

REGRETTING TO ANNOUNCE

We are sorry to announce the death of John Crowley, machinist in the Mechanical Department. Mr. Crowley had been in the employ of the Milwaukee Solvay Coke Company for about thirty years, coming here at that time from the Milwaukee Fire Department. Mr. Crowley was ever able to tell interesting stories of his experiences here in Milwaukee to the delight of those who were privileged to listen to him. It was only a few months ago that Mr. Crowley expressed a request for retirement and his death came as a shock to many of his friends who had seen him around only a few days before. John Crowley will be missed by his many friends and acquaintances here at the Plant.

LABOR CONTRACT

The Coke Plant Labor Contract has just recently been negotiated and signed for another year except for the provision on wage rates. The amount of the increase has been set by a decision of the War Labor Board amounting to 3.17% of the 1942-43 hourly rates. As soon as these rates are finally approved by the War Labor Board, the Paymaster will compute the back pay each man has coming and issue a check for the amount retroactive to June 1, 1943.

MEN WANTED

The following ad is being run in the daily newspapers. Employees can aid in the recruitment of men by telling their friends and relatives about the jobs which this Plant has to offer.

Able bodied men for coke oven work; work at present five 8-hour days per week; shift work; change shifts every 2 weeks; rate 88c per hour on shifts; occasional day work rate 80c per hour. Apply between 8 a. m. and 4 p. m. Job will eventually lead to permanent work after war; 2 weeks vacation with pay after a contract year's service. Men now employed in defense industry need not apply.

WISHING YOU A SPEEDY RECOVERY RAY

Ray Kniewel, who was incapacitated while in the Army is now going through a diagnosis at the Milwaukee Veterans' Hospital. We hope the proper correction is made, Ray, to put you back in your former good physical condition.

CONGRATULATIONS, TED!

Ted Berndt celebrated his 75th birthday anniversary, Tuesday, November 9th. Mr. Berndt is one of the old-timers here at the Milwaukee Solvay Coke Company. He has seen the evolution of coal unloading equipment from the time when coal was shoveled out of schooners into buckets by hand, and raised by winches and swung over the side of the ship into horse or mule drawn carts to the present day efficient Hewitt ore unloader.

Few men have been privileged to see this full development of unloading machinery from so simple a method to so complex a machine as the Hewitt unloader. To mention these extremes in development, however, does not tell the whole story. There were many headaches over the years which developed from the troubles and difficulties experienced in making the new things work.

Anyone interested in hearing stories of the tough times when Mr. Berndt was a young man, will be well repaid by talking with him; but, this article was started with the intention of wishing Mr. Berndt a very happy birthday and with the hope and wish that he has many more to come.

QUARTER CENTURY CLUB

The Directors of the Quarter Century Club held a meeting on the evening of November 23rd, to discuss ideas concerning the welfare of the club and also to decide on the program for the next meeting. The President and Directors of the Club ask that all "old timers" reserve Wednesday, December 15th, as an open date. A surprise in the form of a diversion from the regular type of meeting is in store for everyone who keeps this date open.

GASOLINE UNDERFIRING PLANT

Again as cold weather approaches, the men of the By-Product Department are preparing to place in operation our gasoline vaporization plant. This operation as most of us already know, vaporizes high volatile gasoline so that a mixture of it and producer gas can be burned in the Solvay Ovens, thus releasing coal gas for general city use. Many of the kinks which caused some difficulties last year have been ironed out. During the Summer, an additional storage unit has been installed, which will store Butane for vaporization use.

Butane at ordinary temperature must be held in a pressure-tight vessel, because it will pass from a liquid to a vapor if not contained under pressure. This addition will enable the Company to have a greater reserve of oil and also provide greater possibilities of a continuous supply for the Plant, since there now will be several kinds of oils that we can depend on for use in this Plant.

FISHERMEN

If you are going fishing and know you will come back late, and you are wondering what kind of a land mark to have to guide you to the right pier, get in touch with Jim Cerny. Jim told me his best solution is to take pajamas and tie them to a long pole, tied onto the end of the pier to wave in the breeze. Jim says green and white striped pajamas preferable. Have you any more, Jim? I mean solutions.

WHAT'S COOKING

You boys who are planning on a trip up North next year to go fishing, and need a cook, get in touch with George Radler. The meals he puts together make me wonder if Mrs. George Radler still has her Settlement Cook Book at home, or has George put that in his tackle box too?

WHAT A HUNTER

George Radler, the fisherman and big game hunter, showed his skill to the boys on one of their expeditions to the wilds of Vilas County. Shouldering his trusty musket, George told the boys he would go out and get fresh meat for the table. In his travels, he came upon the evidence of the very recent travels of a bear. He turned pale, then blew his whistle for help (No response). In a few minutes George was back in the cabin, his trusty musket still on his shoulder. Results were sardines for lunch. Boy, what a hunter.

WHY TOMMY!

The boys on the ovens would like to know why Tommy Fox thought it was a necessity to cool off the West door of Oven No. 24, Block 3, by quenching. Bad boy, Foxey.

THE ORIGIN OF THE COKE PLANT

The article below written by Fred Sanderson, who has been on the Plant since 1903, is an interesting account of the development of the Solvay Coke Plant. It brings to light some of the difficulties that were met with in the early days. Many changes have taken place in the meantime. Today there are some structures on the Plant which are not the original structures. These are the Koppers Ovens, the light oil building, the auxiliary boiler house, the producer plant, and parts of the coke handling system. All the other existing buildings have been greatly changed or remodeled from the early days. Those of our employees who were here before the First World War will find this article especially interesting from the point of view of reminiscence; while those who are relatively new on the Plant will find this article revealing a contrast in operating conditions which compared with today's conditions are so different as to be almost unbelievable.

Highlights of the Development of the Coke Plant

By an "Old Timer," FRED SANDERSON

Block No. 3 and No. 4 were put in operation in the Summer of 1904. The ovens were smaller than at present, but a few years later they were built higher to hold more coal. There were three small larries, on top of the ovens, made of wood and sheet iron, lined with journal bearings bolted on to the wood stringers. The ovens used to flare up regularly in those days and set fire to the larries. Sometimes the stringers would burn up and the axles would come out from under, so we had to act quickly as the oven men had to get along with two larries until we got the third larry fixed up. These larries were pushed along the track by hand. There were three tracks, and it took four men to do this job. First one larry was pushed over to the charging hole, then the man went back to the coal bin to get the other larry, then once more after the third larry. These were the hard and tough days for all of us, breakdowns and delays all the time.

We started out with one pusher, and this was just an imitation of a pusher, it kept breaking down all the time. We finally got another pusher, which was not much better, but it helped so we could at least continue "push ovens". There was no leveling ram on these pushers, ovens had to be leveled by hand, a long hoe was used from both sides, and it took quite a long time to level one oven. It was nothing new to see the pusher off the track a couple of times on the shift, as the ties and rails were laid on the soft ground about the same as a railroad track in our yard. There was no piling or foundation of any kind, "boy, oh, boy," those were the days. We were continually walking around with Jacks to put something back on the track.

We had two electric locomotives for quenching cars to begin with, similar to the ones we now have, except they were much smaller and had no air brakes, just a hand operated brake wheel to "turn". Sometimes you could stop where you wanted to and other times you would keep on going. There was no quenching station, all of the quenching was done from nozzles in a line on top of the ovens, so half of the time you did not know where you were because of water, mist and steam. Our electric locomotives were wrecked more than once because the operator was unable to see what he was doing. When a locomotive was out of use, we would switch in the "dinkey", a small steam locomotive. This steam locomotive ordinarily would provide steam to run our old Machine Shop line shaft engine. This usually was "Dinkey Joe's" and my job. This Dinkey had no brakes either, so there wasn't much "Safety First" practiced those days.

Block No. 3 and No. 4 boilers were fired by hand with coal. The old "horse" would haul in the two-wheel cart with coal all day long. Later on oil burners were substituted, and still later gas, for at that early date our gas mains were not connected with the Gas Light Company's mains.

We started out with three quenching cars, ey were built so light that in no time they at all out of shape — "boy, oh, boy" that was another heartbreaking item to keep going.

We had no high line trestle at the beginning. Coke was dumped on the ground and then wheeled into box cars with wheelbarrows. Later on a trestle was built, but coke was still loaded by hand and wheelbarrows until the car tipple and loading devices were installed.

The first coke crusher was put up temporarily about where the carpenter shop is now. A runway and platform was made and the big coke was wheeled up and dumped into the crusher. A wagon would back up under the crusher and load up, later on the crusher was moved over and installed on the coke side. The first coal crusher was installed about where the spare bridge bucket is now. Coal was dumped into a hopper between the tracks under lower part of "M" conveyor. A flight conveyor took the coal from the hopper up to the crusher and from there on to "M" conveyor and over to Block No. 3 and No. 4 coal bin, about where Walter Kipp has his office were two pulverizers. A screw conveyor ran from under these pulverizers to the bucket elevators, which took the pulverized coal up to the bin. Also, on top of the coal were two screw conveyors which took the pulverized coal over to the second bin, and here we had our troubles. Iron got in and smashed up the pulverizers and bent and busted up the screw conveyors and "boy, oh, boy" we had one glorious time to get coal up to the bins. Many times we charged the ovens with coal only crushed because the pulverizers were broken down. Also the coal bins were half as large as they are today, and it was "nip and tuck" all of the time to get coal up in the bins.

No. 1 and No. 3 rig were erected in 1903 and we had a few boat loads of coal unloaded that same year. There were no belt conveyors or bridge to distribute the coal out in the field, so the rigs dumped the coal on the pile along the dock and from there rigs picked up the coal and dumped same into the hopper and then into battleships and brought up to the coal crushers. Now, we had to have more coal in the yard, so we built a hopper on top of the coal pile where the rigs could dump the coal. Several trestles were also made and run out into the field in different directions. We called this a "Scenic Railway". We dumped the coal into a car and left the car go down a slightly pitched hill and out into the field. On the track we fastened a "Trip—when the car hit the "trip", gates would open and the coal dumped into the yard. The car was pulled back under the hopper by means of a cable fastened on to a big bell crank made up of timbers. A big counterweight fastened on to the end of the timber, so when the car went out over the field it was heavy enough to pull up the weight, and when the car was empty, the weight pulled the car back, and "boy, oh, boy" did she come back—sometimes so fast that she went clean through the hopper shanty and down on the dock; and sometimes the cable would break and the car would go through the "trip" and roll down the bank, and believe me, it was some job to get this car up and on to the track.

A few years later the bridge was built and the belt lines installed. The West booms on No. 1 and No. 3 rig had to be cut off and lowered to level in order to allow the bridge to pass by. The rig booms use to be on an incline about 25° so the coal pile was pretty high along the dock.

The Light Oil building was the only steel building on the premises, was located where the Power House Annex and wash-room now stand, and the oil storage tanks were located between the Power House and Light Oil. At the beginning the power house was equipped with three 300 Hp. ball and wood engines, and two small air pumps, same size as the one on No. 103 steam locomotive. These pumps were bolted on to the South wall and used for regulating the A. C. and L. O. Air was scarce those days and we had no air motors for drilling—all holes had to be drilled by hand. We had no chipping hammers and no air tools of any kind.

In the A. C. building one battery was operating along the North wall, and one small lime mixer was operating on the East wall. We had two duplex boiler feed pumps and hydraulic lift pumps. We had no electric oven door lift to depend on, just one duplex pump, and believe me, between the hydraulic lift and the traveling bars and the pump we were kept plenty busy. There was no crane in the building. All columns and rigs were handled by chain tackles. The building, floors, platform, stairways, and walks were all constructed of wood.

The B. P. was a wood frame building, in fact all the buildings were wood-constructed, built in with bricks, much like the Greenfield Avenue garage. On the North end of the B. P. was a couple L. B. A's. It had a large and very deep basement. All the pumps were located in the basement, and they were of the old belt-driven type. Now the syphons as usual, refused to work, and it was not long before there was two or three feet of water in the basement. The belts were running in water, they slipped and they came apart — "boy, oh, boy," we lay in the water and liquor to splice the belts. The pumps were driven from a lineshaft running along the floor. Motor was at the North end of the building. The entire main floor was also made of wood and full of holes. There was no such thing as "Safety" those days — if you fell down and broke a leg it was just too bad. All tar and liquor drains went down into the basement; you could skate and slide on tar all over — it really was the dirtiest building in the Plant. We had three Semet Solvay engines and three exhausters at the start. The engines were hooked up to the exhauster with a square jaw coupling and rubber belting between the jaws. We had a lot of trouble with these engines, crank pins and discs and fly wheels came loose, everything had to be fixed and we worked day and night in order to do this job. This building was destroyed by fire in the latter part of 1906 and the new B. P. erected soon after.

Coke oven machinery was new to all of us; it was something entirely new. We did not really know what changes to make, neither did the Semet Solvay Company. The material and equipment furnished by them, for a relatively new use, or operation, had many defects which were shown up in operation and had to be corrected on the job.

Our Plant grounds originally was nothing but a big swamp, and to fill in the yard was a big undertaking. The railroad company got that job. Piles were driven and a trestle was made about where the coal pile is now located. The engine would back in 25 or 30 flat cars full of dirt. A plow was on the first car backing in and a hauling winch on a car next to the engine tender. A cable was attached and the plow was pulled all the way from car to car. This was continued until enough dirt had been dumped so that a track could be laid. As the dirt was dumped, the track moved West until the yard was pretty well filled up.

The Ludington Salt Company had their docks and warehouses in our East yard and one of the boys working over in the Domestic had his farm in the East yard. Later on the Salt Company moved their warehouses right across from our dock before the Grand Trunk Car Ferry built their dock. The Grand Trunk Car Ferry used to have their dock on Jones Island.

Safety First was unheard of and never practiced in the old days. Many were injured and some were killed due to carelessness and lack of good judgment in Operation and Construction work. It was not until 1910 that Safety First was introduced and conscientiously observed and how we did appreciate this big step ahead. We now could get First Aid attention and we no longer had to use old rags and torn up handkerchiefs for injuries.

Today we have a modern First Aid Room—clean bandages and medicine of all kinds, and an attendant present at all times. What a wonderful improvement from years ago!

18546 ELECTION RETURNS

The recent election held by the members of 18546 for officials resulted in the following selection:

President—Alfred Werner
Vice-President—George Lynch
Record and Corresponding Secretary—William Baumgartner
Financial Secretary—Edward Plath
Treasurer—James Schauer
Business Agent—Walter Hohler

The above officers are elected for the 1944 term. In addition to the above a Custodian, Trustee, and Committee Members were also elected.

SOMETHING NEW

Men of the Plant wondered what all the activity was about last week Friday when they saw a trench digger on the Plant and digging along industriously just east of the Pusher track from the A. C. to Block No. 2 stack. The trench soon had a complete line of 8" vitrified sewer tile in it which our men laid in a couple of days. The object of the sewer tile running up hill is not certainly to take sewerage away, but this conduit is designed to take the waste gases from the A. C. up to No. 2 stack, where it can be dissipated high overhead, thus causing a very great dilution of gases with it.

Yours for Victory,

AL. BRILL.

"And how is your good wife, Sultan?"
"Oh, she's all right; but the others are more fun."

"Why did you ask her for a date?"
"Because she's so different from all the other girls I know."
"How's that?"
"She'll go out with me."

Dimples: "They claim that when women adopted shorter skirts it reduced the number of street car accidents fifty percent."

Bill: "Wouldn't it be fine if such accidents could be prevented altogether?"

REX REPORTER.

A WARTIME FORMULA

In recent months, we hear that the demand for secretaries in Washington has become so great that applicants are given one test: They are put in a room with a sewing machine, a washing machine and a typewriter. If they can pick out the typewriter, they're hired!

DON'T SHOW THIS TO WIFEY!

"McDuff, I'm in love with your wife. If you will give her to me I'll pay you her weight in gold."
"Let me ha' a fu weeks, first."
"What for; to think it over?"
"Na, mon! To fatten her."

THE FLOW LINE.

DO WE AGREE?

If anything good or great has been born of this war, it should not be valued in the pages that historians will attempt to write, but rather in the youth of our country who were never trained for war and who almost never believed in war but who have, from some hidden source, brought forth gallantry which is homespun, it is so real.

NAVY FLIER 1943.

Milwaukee Solvay News

JUNE, 1946

Milwaukee Solvay News
Published by Milwaukee Solvay Coke Company for Employees at the Plant and in Service.

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PLANT OPERATIONS CURTAILED

The coal strike has continued for such a long period of time that it has affected the ability of the Milwaukee Solvay Coke Company to acquire enough coal to enable it to operate at the capacity of 2,200 tons per day.

Coal contracts with various coal mining companies have been cancelled to the extent of the quantity that would have been mined during the last two months, or about ¼ of the tonnage that was ordered by the Company. Furthermore, the Solid Fuel Administration announces that it probably will be forced to ration solid fuels because of the anticipated shortage.

In view of the above facts the Company has decided that it will continue to operate at the reduced rate of 1,600 tons a day except for minor fluctuations until such time as it is sure it will have enough coal on hand to operate at a higher rate. There is a big demand for coke right now but the Company cannot take advantage of the present demand for its product because of this unfortunate coal situation.

ST. LOUIS CHANGES TO NATURAL GAS

The Laclede Gas Company of St. Louis has just announced its decision to change to natural gas without dilution with manufactured gas. The company stated that it has long been the aim of the management, as stated before the Public Service Commission of Missouri, to make this change whenever conditions warranted doing so.

It is the intention of the company to continue the manufacture of its coke in its by-product coke oven plant because there is a great enough demand for metallurgical coke to make this operation a feasible one. The announcement states, however, that the length of time this by-product coke plant will continue to operate depends largely on the ability to sell its gas and coke. The Laclede Company needs a good market for its coke oven gas, which would enhance the operation of the by-product plant. It is fortunate Milwaukee Solvay has such a good market for its manufactured gas.

NOTICE FUEL SUPPLY

Due to the curtailed supply of fuel here, caused by the coal strike, it is expected that customers may decide to place their orders now for their full year's supply and expect early delivery soon thereafter. However, the conditions of price and the shortage of fuel make it necessary to accept these orders subject to the Company's ability to fill them, and subject to the price in effect at time of delivery.

The Milwaukee Solvay Coke Company, as well as all other coke producers, has received a notice stating that an increase in ceiling price for coke has been allowed under governmental authority, MPR 29, Order 21, but the amount of such increase has not been set. In view of the inability to set a price at this time the Company is issuing a notice with all delivery tickets giving the above information on the price situation.

HOW MUCH DO BENEFITS COST

The cost of benefits which employees are entitled to—in case of unemployment, sickness accident or health incapacity, old age pensions at 65, and life insurance—add up to a considerable sum for each employee on the payroll. $8.00 to $10.00 each month for each employee is the cost to the Company for such benefits.

This amount is in addition to other benefits which are given without cost to the employees, such as license fees for the engineers and firemen, retirement allowances for disabled employees, and various other services such as sports programs and the Quarter Century Club meetings, etc.

These benefit costs seem like small items when they are listed separately, but added together they result in a considerable sum.

HOURLY RATES AND THE COST OF LIVING

Back in 1933 the average hourly rate at the Milwaukee Solvay Coke Company was 54¢ per hour. This rate has increased steadily over the years until now, at the present time, it is $1.18¼ per hour, which includes shift differentials. This increase of 64¢ per hour is equivalent to 118%.

The Bureau of Labor Statistics' Cost of Living Index, with a base of 100% for the years 1935-39, shows an increase of 34% in the cost of living. If the Cost of Living Index of the year 1933 is used as a base, which is approximately 90%, the cost of living over and above that year is 49%.

There certainly can be no claim that the raise in wages here at the Solvay plant is lagging behind the rise in the cost of living.

Since January 1941, straight-time hourly wage rate increases, not including shift differentials, have equaled 28¢ per hour. This represents an increase of 32%; and if shift differentials are included it represents an increase of almost 35%.

Words may show a man's wit, but actions show his meaning.

—FRANKLIN

PETER DRLJACA

It is with a great deal of sorrow and ›gret that we announce the death of ›ter Drljaca, as the result of an acci-›ent which occurred here on the plant Friday, May 17, at about 9 A.M.

Peter Drljaca came to this plant 31 years ago. He worked as a laborer, oiler, fireman on locomotive cranes, and eventually became a crane operator. He had worked as a crane operator for approximately 20 years, and was considered highly skilled in loading and unloading fuel cars.

Mr. Drljaca is survived by his wife and five children, one of whom is in the armed service.

The employees and the Company extend their deepest regret and sympathy to his family in their bereavement of their husband and father.

* * * * * *

Savario Joe Spata and Edward Johannsen are to be highly commended for their prompt action in rescuing Peter Drljaca from the cab of the locomotive crane which had overturned. Their promptness in acting wisely and speedily in this emergency is certainly worthy of special notice.

IS YOUR HOME PROTECTED?

According to a pamphlet received from the National Board of Fire Underwriters, many homes are insured at too low a value. This failure to insure at the proper value is due to the fact that building costs and property values have been rising and home owners have not increased their insurance accordingly.

In Milwaukee small house building costs have increased 39% since the average of 1935-1939; therefore, if you are interested in having your property insured at today's value you should increase your insurance approximately 39%, if you had the proper coverage of insurance back in 1935-1939.

The National Board of Fire Underwriters also calls attention to the fact that the fire losses in the United States are rising. Better be safe than sorry.

The cost of fire insurance is so low in comparson with values that there should be no reason for not fully insuring your home and furniture.

Your Job and Natural Gas

By E. F. BURDICK, Vice-President

Question 9: If the Coke Plant is to be kept in operation why has it not been modernized with up-to-date equipment?

Answer: The Milwaukee Solvay Coke Plant equipment is being modernized —as equipment wears out—with the most up-to-date apparatus that can be purchased and applied economically and efficiently.

There is no benefit in throwing out old equipment before it is worn out unless it brings about increased efficiency or a saving in manpower. New coke oven plants have more efficient processes and apparatus than do old plants. However, it is not always practical to equip old plants with these new developments.

New coke ovens have self-sealing doors which automatically, upon placement in the frame, seal the oven without the use of luting clay or any other material. The design of our ovens makes the use of such doors impossible without rebuilding the ovens, the cost of which would, obviously, be too high.

Liquid sealed valves on the standpipes on the ovens is a new development which this company intends to utilize as soon as reconversion difficulties are eliminated and material and equipment can be obtained. This will increase the gas yield per ton of coal charged.

Present plans call, also, for new collecting mains on the Koppers ovens; new take-off flue on the No. 3 Solvay battery; modernization of the Light Oil Plant; improvements in the Boiler House, and various other changes which will cost hundreds of thousands of dollars.

It has always been the policy of the company to maintain the plant in the best possible operating condition, consistent with the design of the ovens and in conformity with the best engineering practices.

This policy has brought to the Coke Plant a new coke crushing plant; the foundry screening plant; the vibrator and shaker screens in the domestic house; the Diesel locomotives; new water feed pumps; new equipment in the Machine Shop; electrification of the rigs; modern lighting in the office building, etc. Because this policy of continuously improving the plant has been in effect so many years we have a tendency to take these improvements for granted—and in a matter-of-fact manner.

The Company has given consideration to installation of larger pulverizers and storage bins over the ovens. It is true these would eliminate night work in the Coal Handling Department because enough coal could be pulverized and stored to allow operation a full 24 hours after by pulverizing at a greater capacity. Such change, it has been determined, is just too costly to make at this time.

Question 10: How many men will be thrown out of employment at the Coke Plant when natural gas comes to Milwaukee—and how will these men be taken care of?

Answer: Plans for the operation of the Coke Plant, in the event natural gas is introduced, provide for the employment of all our employees.

The fact is that the introduction of natural gas would make more jobs available to men of the Solvay Coke Company and the Gas Company. No man need fear unemployment because of natural gas.

Mrs. Newlyrich: "Waiter, I'll have one big pork chop with French fired potatoes, and I'll have the chop lean."

Waiter: "Yes, madam, which way?"

* * *

"Watcha making such a fuss about?" said one mosquito to another.

"Hot Dawg. I just passed the screen test," was the reply.

"This manual," said the sergeant, "will do half your work for you."

"Fine," said the gunner. "I'll take two."

* * *

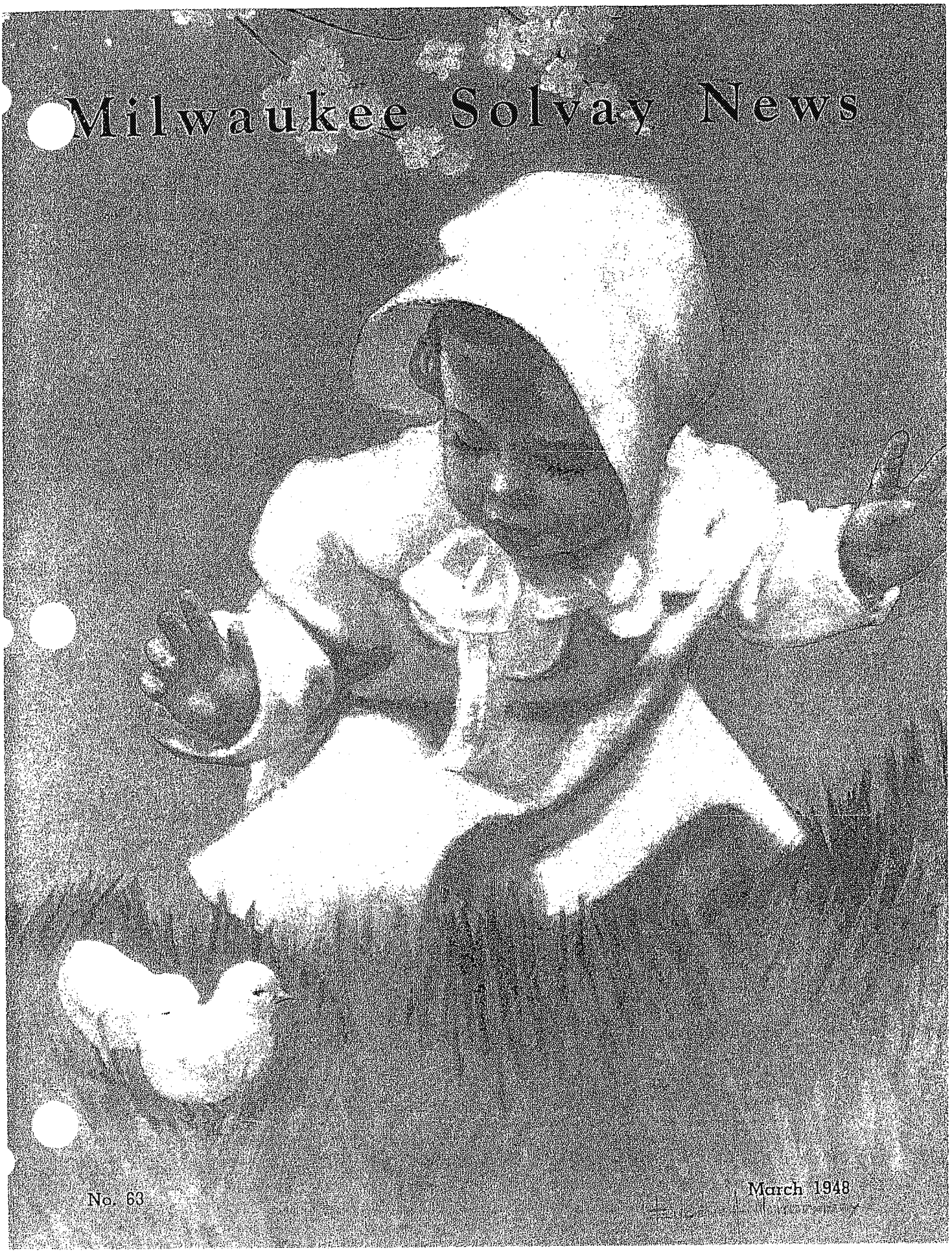
First Aid Instructor: "What would you do if a patient were pale, sweating profusely, unconscious, bleeding from the mouth, and had a broken arm."

Recruit: "I'd bury him."

ORDER YOUR COKE NOW ! ! !

Employees are advised, because of the uncertainties of production and price in the future, to order their coke now. It will undoubtedly be to their advantage to have their coke in their bins early this year.

Milwaukee Solvay News



No. 63

March 1948

St. Paul Coke Plant To Operate Despite Use of Natural Gas

Ever since the movement to bring natural gas to Milwaukee was inaugurated the Milwaukee Solvay Company officers have assured employees that the plant will be kept in operation despite the introduction of natural gas.

Engineering studies have demonstrated the feasibility of such a program and plans presented to the Federal Power Commission and the Wisconsin Public Service Commission contain provisions for continued operation.

In this connection an article which appeared in "Koppers News" of February, 1948, proves interesting. With a situation not nearly as favorable as that which exists in Milwaukee, the Koppers Coke Plant in St. Paul, will continue in operation, "Koppers News" says. The article, in part, follows:

"The Koppers Coke Plant at St. Paul, Minn., which has furnished manufactured gas to the city for the past 30 years, will continue operations even though the city is turning to the use of natural gas.

"Two years ago the people of St. Paul expressed their desire by referendum for having the use of natural gas. This faced the coke plant with complete loss of revenue from the gas produced...

Market for Coke and Gas

"The outlook was dim until recently and finally agreements were made with several companies for production of foundry coke on a basis which will provide a small margin of profit...

"The production of foundry coke is a change in operating policy. The type of coke for foundry use is made in larger sizes than that used domestically. It is made by coking the coal over a longer period of time.

"The process brings a lower return of gas. What gas is produced will be sold under contract to the Northern States Power Company.

"The Koppers Company had petitioned the Federal District Court in St. Louis to review the Federal Power Commission order permitting natural gas in St. Paul. This petition was originally felt necessary for the Company was of the opinion that the FPC order would make it necessary to dismantle the St. Paul plant. Since the Company will now be able to operate due to the recently made agreements the court has been asked to drop the proceedings."

Major Improvements on '48 Program Include New Hoist and Oven Repairs

There is good news for the men unloading coal from railroad cars because the new electric hoist which handles the car shaker is expected to be delivered in April. This electric hoist will do away with the hand operated chain hoists which are slow and cumbersome in comparison.

When the shipment of coal by railroad cars is discontinued it is the intention of the Mechanical Department to move this new car shaker and electric hoist to the car unloading hopper at the Boiler House. In anticipation of the transfer of the car shaker, the Engineering Department has designed a structural steel frame to support the car shaker. A protection to the men working on this unloading job, the plans also include a roof over this apparatus to protect them from the rain and from the sun in hot weather, together with an unloading platform west of the cars being unloaded. The platform can be reached either from the ground level or boiler house floor

Ready for Repairs

The Koppers batteries of ovens, which have been in operation for more than 25 years, show some signs of wear. Investigation indicates that the constant pushing of coke has caused the western end of the ovens, the silica bricks on the floor and sides, to wear to the extent that it is considered advisable to replace and repair this portion of the coke ovens in the very near future. It is expected that this work will be done this coming year. In anticipation of doing the job this summer, brick and high temperature cements and other ingredients have been ordered. Representatives of the Koppers Company have been consulted in regard to the details of this job.

There have been two new calcium chloride tanks, of 12,000-gallon capacity each, installed in the place of two other corroded tanks which were taken down and junked. These tanks hold a solution of calcium chloride which is used by the Coke Handling Department to keep down dust in the handling of domestic coke.

Calcium chloride in its normal state is a salt, but as it is received here it is mixed with water. Calcium chloride has a great liking for water. If the salt is placed in the open air it will soon absorb enough water vapor from the air to completely liquefy the salt. This characteristic of calcium chloride is used in keeping dust down on coke. When it is sprayed on the coke it keeps a thin film of moisture covering the coke surfaces. This moisture clinging to the minute particles of coke, known as dust, makes these particles too heavy to float around in the air. In that manner the dust is eliminated from the air while domestic coke is handled.

Solvay Met Demand Of Rigorous Winter

The Milwaukee Solvay Coke Company with its gas pumping plant taxed to its utmost capacity faced a problem last year of reinforcing its pumping units to the extent that all reasonable doubt of the reliability of its services be removed. Therefore it proceeded to make three important improvements in apparatus to insure such reliability.

First it installed greater storage capacity of butane propane gas, which installation was designed to release more coal gas to the Milwaukee Gas Light Company.

Second, it installed a new and larger capacity gas pump in place of the No. 1 gas pump in the B. P. In addition the Company overhauled its pumping units in the B.P. which were wearing out at a faster rate than they would if there was a normal load.

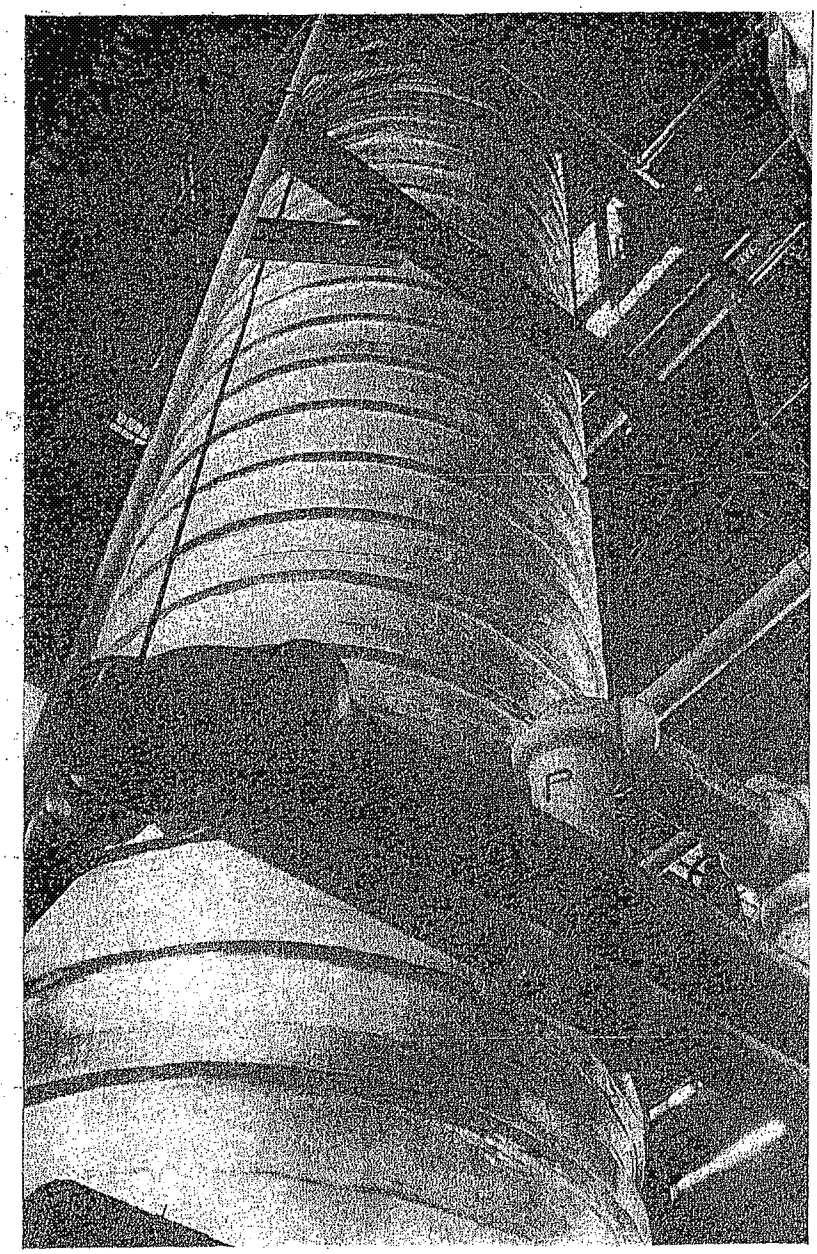
Built New Gas Line

Third, the Company built a new overhead gas line to relieve the back pressure on the gas pumping units in the B.P., which units were already pumping beyond their normal back pressure rating.

The employees of the Company who were responsible for the construction and installation of these various improvements, and the operators who took over after the construction had been completed, can justifiably be proud of the part they played in sending a continuous maximum volume of gas to the Milwaukee Gas Light Company.

The Gas Light Company also is entitled to commendation for its ability to maintain uninterruptedly a steady flow of gas to all its customers. This record is a good one, especially in view of the fact that most other large cities had to curtail and actually shut off some of their services—especially to industry—thus throwing a considerable number of people out of employment.

Light Oil Plant Produces By-Products



This massive tower is a light oil distillation stripping still in which light oil is reclaimed from the absorbent petroleum oil, which recovers the light oil from coke oven gas. The tower is approximately 70 feet in height and 8 feet in diameter.

Is Important Unit In Solvay Operation

By Albert Mueller

Out of coal with its complex chemical structure, many chemical products are ultimately derived.

The coke oven is the basic apparatus which, through the distillation of coal out of contact with air, produces the many crude chemicals and coke. The chemicals are produced in a gaseous or vapor form. They must be treated by various means to produce the final product. Some of the chemicals recovered are tar, ammonia, gas, and crude light oil, which is the product the Light Oil Department recovers from the coal gas.

The crude light oil is in a gaseous form, mixed with the coke oven gas. The light oil plant removes the crude light oil vapors and then refines them into pure benzol, toluol, and xylol.

The crude light oil recovery plant consists of tall vertical towers packed with wooden grids, and a distilling tower, with pumps and tanks for handling the oil

Distillation Goes On

Petroleum oil is used to to recover oil. It is pumped into the top of the vertical towers, running down over the wooden grids while the gas containing the crude light oil vapor passes up through the towers. The petroleum oil has a strong liking for the crude light oil vapors. Therefore, it picks them up and holds them to its body as a liquid. This is a continuous process with fresh petroleum oil being continuously pumped to the vertical towers and the petroleum oil carrying the crude light oil running to a tank. The petroleum oil carrying the liquid crude light oil is then heated in small vertical tanks filled with many pipes or tubes where it is heated with steam to about 240° F, and thence flows to the distilling tower.

The distilling tower is composed of many trays, each tray connected with the tray above and below with liquid overflows and vapor passages. Steam at 2 to 3 pounds pressure enters the bottom of the distilling tower and drives off the crude light oil from the petroleum oil. The steam and light oil vapors leave the top of the column at 215° to 220° F., while the clean petroleum oil leaves the bottom of the column, passing through coolers for reuse.

Red Cross Quota Exceeded

Milwaukee Solvay Coke employees have again exceeded their Red Cross quota, by $103.50. The quota this year was $500 and total collections amounted to $603.50.

Employees are to be congratulated for their fine showing.

No Season For Carelessness

Spring is the safest season in the accident records, the National Safety Council says. But before you start thumbing your nose at fate, remember that "the safest season" still claimed about 250 accident victims a day.

Distills Benzol, Toluol and Xylol

Continued from Page 4

The crude light oil vapors and steam are cooled and condensed to liquids. They flow to a tank where the oil and water separate, the water as waste and the crude light oil as the product.

The next step is the refining of the crude light oil which contains dozens of chemicals.

The refining plant consists of boilers or tanks containing steam coils; distilling columns with partial coolers and condensers; acid washing kettles; acid sludge kettles; and the necessary pumps and tanks.

The first step in refining is a crude distillation, where crude benzol, toluol, and xylol are separated. The crude benzol, toluol, and xylol are then washed as separate units, with very strong sulphuric acid, to remove chemicals which are not wanted. The oil is then treated with water and lye to neutralize any excess acid.

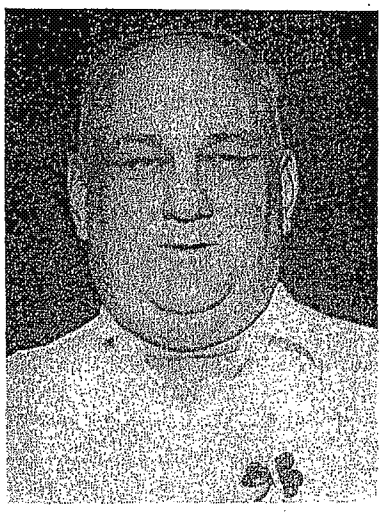
Final Distillation Takes Place

Now the oil is ready for the final distillation which produces the finished product, namely benzol, toluol, nd xylol

During the distillation the operator watches the still and distilling column temperature, pressure, and distilling rate so that the desired products are obtained. Samples of the oils are sent to a tester who distills small amounts of the oil in glass flasks, checks the color and the corrosiveness so that the oils are placed in the proper tanks for shipment or redistilling.

Benzol boils at 170° F., toluol at 232. F., and xylol at 275° F., to 295° F., while water boils at 212° F.

The operation of the light oil plant is performed by light oil operators, who are responsible for the recovery of the oil from the gas and the light oil from the petroleum oil; by rectifying operators, who are responsible for refining the oil; by the acid wash operators, who are responsible for the proper acid wash and alkalizing of the oil; and by the loaders, who are responsible for the inventory and shipping of the oil. In addition, there is an assistant light oil operator.



EDWARD BIRD

Ed Bird is foreman of the Light Oil Department. He's wearing a Shamrock — the picture was taken on March 17 — and begorra, he has a right to wear it.

Home Accidents Take Lead In State's Fatality List

The 1947 Accident Report for the State of Wisconsin was published recently and it was interesting to note that the greatest percentage of accidents occur in the homes. Industry was in last place with the least number of fatal accidents.

The record is:

	No. Fatal Accidents
Home	835
Street and Higway	776
Farm	145
Industrial	142

Same Situation Nationally

For the first time in recent years, except when gasoline was gone to war, motor vehicles were deposed in 1947 as the champion accident killer. The National Safety Council's figures show home accidents took 33,000 lives, well ahead of the traffic toll of 32,000.

—•—

SYMPATHY TO EMMET MULLEN

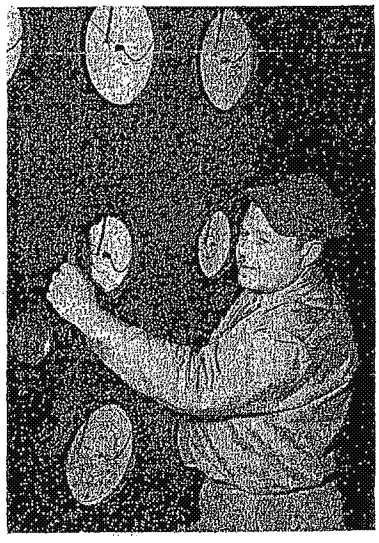
Our sincere sympathy is extended to Emmet Mullen in the recent loss of his wife.

TERRY GILBERT

He is loading operator of the Light Oil Department.

ELLSWORTH CALLIES

Ellsworth is assistant Light Oil Operator.



JOHN ANSON

John is Light Oil Rectifying Operator.

Milwaukee Solvay News

No. 66

June, 1948

MILWAUKEE SOLVAY NEWS
Published by
Milwaukee Solvay Coke Company
for its Employees

No. 66 JUNE 1948

ALFRED BRILL, Editor
SHIRLEY LANGE, Ass't. Editor

Mechanics Keep Pace With Progress; Use Temperatures 290 Deg. Below Zero

To the uninitiated it would seem impossible to put a steel pin into a hole which is smaller than the pin. This actually was one of the problems the machinists faced when they overhauled No. 5 engine. They had to get a 6.126 inch pin into a hole that measured 6.120 inches.

This seems to be an impossible problem because we learn in physics that two things cannot occupy the same space at the same time. But the machinists know that while this law is true, you can stretch or shrink iron if you have the means to control the temperatures of the materials with which you deal and thus make the hole a little larger and the pin a little smaller and fit the pin into the hole — so they used some of this hocus pocus.

In the old days the procedure was to heat the metal into which the hole had been bored and thus after a sufficient expansion of the metal the pin could finally be driven into the hole. Upon cooling, the metal surrounding the pin would shrink back to the diameter of the pin and thus grip it very tightly.

Our mechanics tried the reverse procedure; that is they cooled the pin so that it shrunk sufficiently to allow the pin to he placed into the hole. Now in order to shrink a 6.125 inch pin any appreciable amount the temperature of this pin must be lowered many, many degrees; therefore, some medium for cooling this pin had to be found. That kind of medium is liquid air.

Liquid air is ordinary air cooled down to about 290o below zero, Fahrenheit, at which temperature the air becomes a liquid. At this temperature it looks like water, pours like water, and to all appearances it is water—except if one were to stick a finger into that liquid it would freeze so quickly as to require amputation.

Our mechanics made use of this low temperature characteristic of liquid air. In order to cool down the pin, a liquid air bath was made, insulated from the outside temperatures, into which the pin was placed. The pin shrunk 12 thousandth of an inch after about twenty minutes immersion in this bath. The mechanics then placed this cold and shrunken pin into the hole without any difficulty.

The pin, upon absorbing the temperature of the surrounding air and shaft into which it was placed, again expanded to the point where it completely filled the hole. Because of its larger-than-hole size it expanded the hole so that the resulting tension held the pin tightly and prevented it from turning.

Investment in United States Bonds By Solvay Employees Near $700,000

Since the payroll savings plan was inaugurated in 1942, employees of the Company have purchased almost $700,000 in savings bonds. This is equal to more than $1,000 per employee.

If you are not one of those who has enrolled in the payroll deduction plan of saving you should do so now and join the group who have found the payroll savings way the easy way.

Every man should save some part of his earnings.

Those who save money say that it is much easier to do so by taking a certain sum each pay day and laying it aside in the bank or in some other safe deposit where it can be accumulated and where it will draw interest. Then as time passes, it is surprising how a small sum laid aside regularly grows into hundreds of dollars without much noticeable sacrifice.

For the last seven years the Company has provided an even more convenient way to save. The payroll deduction way provides a painless way and in addition it delivers a U. S. Savings Bond into the hands of the saver without any more effort than to ask for the bond in the payroll office.

Join up! Don't delay! The payroll way is the easy way; and what's more important, it pays $4 for 3.

For your own security and for the security of the nation buy security bonds now.

Bonds are money in the bank. They can be converted into cash in any emergency—easily and without delay. But don't cash them in unless absolutely necessary for the day they are turned in your interest stops.

Repairs Underway Despite Handicaps

Just like the difficulty experienced by veterans in obtaining homes for themselves, the Company also has difficulty in getting contractors to do some work here at the plant. However, the Company was fortunate in receiving a commitment by a contractor to reroof the pulverizer building in the Coal Handling Department, with an asbestos covered corrugated roofing material. In addition the roofing over M coal conveyor will also be renewed.

Company tank cars are receiving new type "AB" brakes. These brakes are installed by the General American Tank Car Corporation, and conform with latest transportation regulations.

A new wire safety guard will be installed to house the large coupling of No. 7 Motor Generator unit in the Power House annex building.

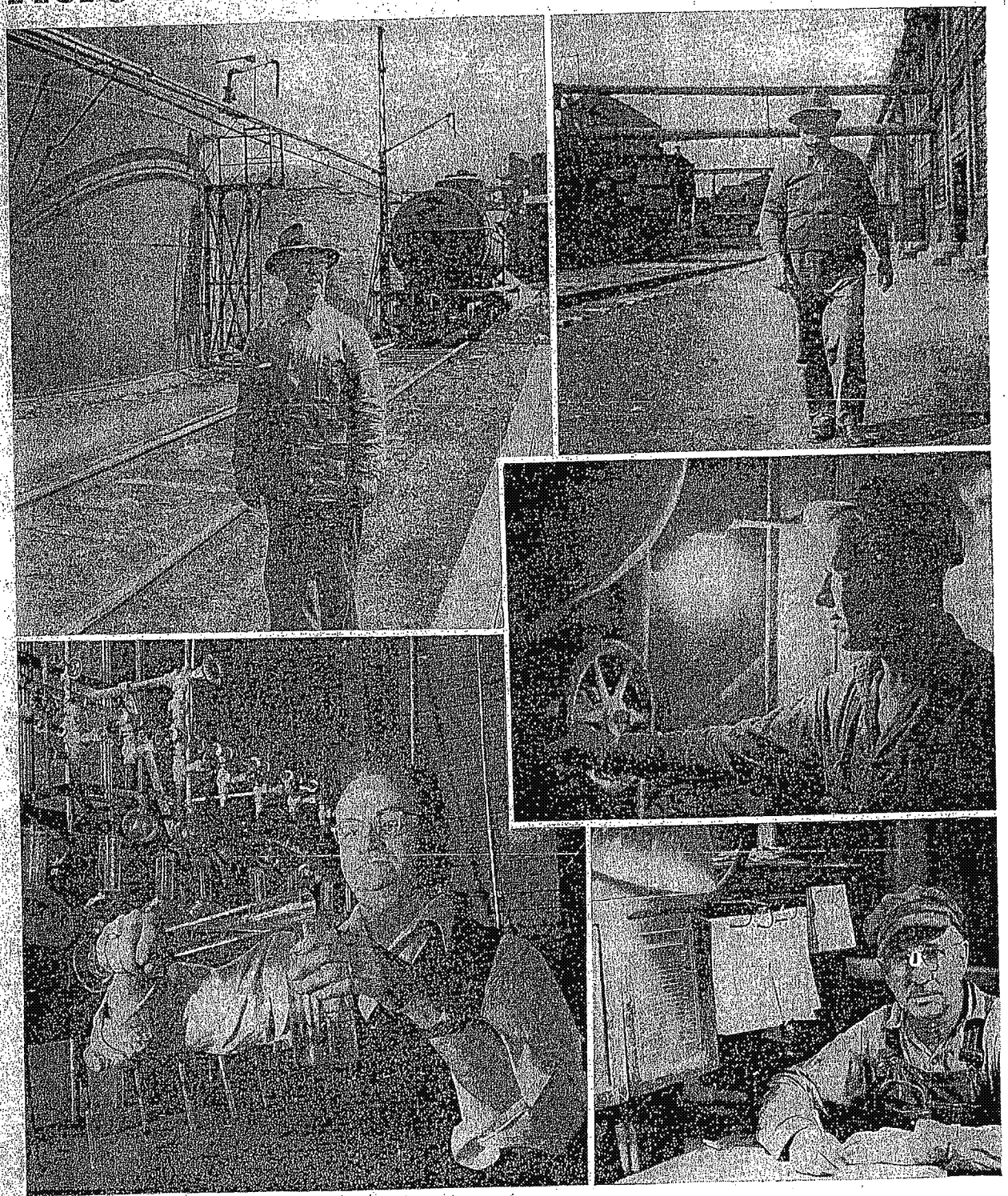
Our own mechanics have been doing a complete overhauling job of No. 4 vertical exhauster engine in the gas exhauster and booster building. The job is almost completed and with its rebabbitted bearings, rebored cylinder, refinished valve chest and crosshead guide, it is expected the unit will be as good as new and will give many more years of steady operation. The No. 4 exhauster pumps oven gas from Solvay batteries No. 3 and No. 4.

Company And Unions Agree On Vacation Pay Changes

The Unions and the Company have agreed that employees who take one week of vacation may receive their full two or three weeks' vacation pay two days previous to taking their one week's vacation.

1947-48 labor contract provided that the vacation bonus for the vacation week worked would be paid the first week in December. This provision, it has been agreed, will be eliminated from the new labor contract in accordance with the new rule mentioned above.

Here is Part of Ammonia Plant Crew



Upper left: Tom Fitz, veteran employee, is the man who loads all the ammonia into tank cars.
Upper right: Arthur Fritsch, general shift foreman.
Lower left: Wallace Coleman makes tests in the laboratory to enable the ammonia plant operators to produce a high quality product.
Center right: Ray Kniewel assists the ammonia plant operator in running the plant.
Lower right: Adolph Nelson, ammonia concentration plant operator.

Ammonia Refining Plant Operations Given In Detail By Company Chemist

Many of us have come in contact with ammonia, which we have seen in bottles in our homes. Ammonia in this form is used for washing purposes, in cutting grease, in bleaching and for other cleaning purposes. This form of ammonia is the usual conception most people have of this chemical. In reality ammonia is a gas which is colorless and when isolated in a bottle cannot be distinguished from air or any other colorless gas. But once the cork is pulled from the bottle there is never any uncertainty as to whether the gas is ammonia or not. A good whiff of ammonia almost knocks one down.

Ammonia has a great liking for water and is readily absorbed by the water and it is this form that the cleansing ammonia is in when we buy it in bottles for cleaning purposes.

This liking of ammonia for water is made use of in coke plants in order to extract the ammonia gas out of the coal gas which comes from the coke ovens. The coal gas is sprayed with water and as the gasses come in contact with the water surfaces the ammonia gas is absorbed out of the coal gas. This water with the ammonia gas absorbed in it is the raw material which is used in the ammonia refining plant.

The ammonia refining plant separates the ammonia gas from the absorbing liquor. The process forces the ammonia gas out of the liquor, and also by the use of lime it changes the composition of ammonia salt in the liquor so that this ammonia can be freed by the application of heat in combination with controlled temperatures.

Here's Explanation

In other words, the ammonia refining plant cooks the ammonia gas out of this liquor by controlled process and then allows this ammonia gas to be reabsorbed in clear water, which is the final product and is known as aqua-ammonia. This final product is shipped out in 10,000 gallon tank cars. The chemist's explanation of the process is as follows:

The liquor, or feed or stock, for the ammonia plant is called weak liquor. This solution contains 10 to 12 grams, per liter, of ammonia salts. A 10 to 12 gram per liter is equivalent to 1½ to 2 ounces per gallon, or a 1% solution. The weak liquor storage tanks have a capacity of 290,000 gallons.

The ammonia plant has three sets of apparatus. Each unit is comprised of a dissociator, heat exchanger, lime reactor, free still, fixed still, washer and absorber.

The dissociator, washer, fixed and free still each have a large single bubble cap with outside overflows: the liquor passing down the column, the vapors rising up the column. These caps and trays act the same as the caps and trays at the Light Oil refining plant.

The weak liquor is pumped to a constant level tank from which it flows to the dissociator where the ammonium carbonate is decomposed, liberating the carbon dioxide. The hydrogen sulphide is also liberated and leaves as a gas. The hot, weak liquor passes to a free still, the ammonia vapors continue to a heat exchanger, then to a washer which removes sulphur, then to absorbers and storage tanks. The weak liquor, after leaving the free still, passes to a lime reactor to change the fixed ammonia (ammonia chloride) by chemical reaction to another form, then to the fixed still where the ammonia is distilled. Distillation is carried on with direct low pressure steam, which comes from the Producer Plant and the B. P.

The finished acqua ammonia ranges from 28 to 30 per cent by weight. Ammonia is shipped in 10,000 gallon tank cars, and the Company has a storage capacity for 135,000 gallons of strong ammonia.

The capacity of each unit of apparatus, based on 12 grams per liter weak liquor, is 3000 to 3100 gallons per hour; in terms of ammonia gas, 220 pounds per hour. Some pyridine is recovered from the washing unit water.

Accidents More Numerous During Vacation Months

During the vacation months of June, July and August last year, traffic accidents in the United States killed someone every 16 minutes. The National Safety Council says more travel makes vacation time danger time. Avoid trying to cover too much distance in one day, which leads to speeding and fatigue, if you want a safe and restful holiday.

Insisting on the right-of-way never determines who is right, but who is left.

Solvay Engineers Render Aid To Gas Men In Emergency

On Wednesday night, January 14 one of those long-to-be-remembered January nights when the mercury hovered around zero and when the wind came howling into the city—the top lift of the relief holder at the Gas Company's Third Ward Station "jumped the track."

This lift, which rises and falls with the pressure of gas from the carburetted water gas plant, is guided by goosenecks and flanged wheels which ride on rails on the vertical columns of the holder.

When the wheels left the rails the lift tilted at a dangerous angle; some gas in the holder was released because the water seal was not completely effective; water gas sets had to be shut down, and, in the interim, the Gas Company faced another day of heavy demand in this coldest January in 31 years.

Action Was Necessary

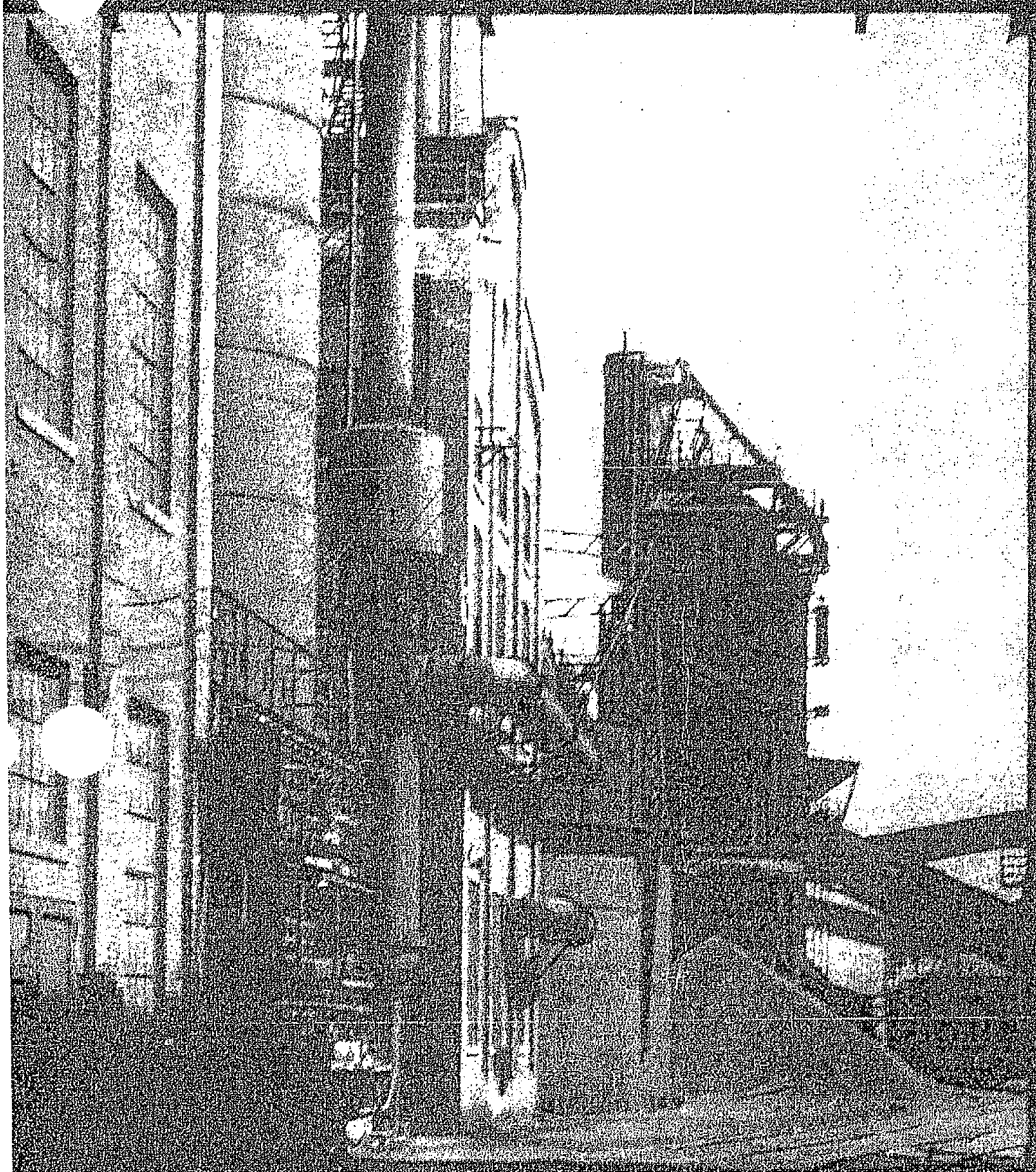
Word of the accident was conveyed to Coke Company executives. There had to be action—a lot of action—but fast. E. F. Burdick, vice president and general manager, was advised of the serious situation by J. A. B. Lovett, president of the Coke Company and then executive vice president of the Gas Company, who was on the scene. Joe Kullman, chief engineer, was informed immediately.

Sure, it was a cold night. There were many places far more comfortable than the Third Ward Plant of the Gas Company. But Ernie Burdick and Joe Kullman responded to the SOS, joining the Gas Company crews and the crews of private contractors who had been called in because the accident threatened to force a curtailment of service.

With the crews ready all the men went to work. In spite of the biting cold, the piercing wind and dangerous working conditions they worked throughout the night to repair the damage.

The top lift was brought back on an even keel by removing some of the gas. However, the wheels were still out of line with the vertical guide rails. With block and tackle the lift was rotated so that the wheels rested on their respective rails. Joe Kullman made on the spot sketches of the cast iron wheels and Solvay began immediately to fabricate steel flanges.

Milwaukee Solvay News



The Producer Plant

No. 69 September, 1948

Appeal Is Sounded For Fund Campaign

You're helping make your city a better place to live when you contribute to the Community Fund. At some time or another in our lives, all of us need some of the Red Feather Services.

Last year more than 25,000 of your neighbors obtained health services through the Milwaukee Children's Hospital, and the Curative Workshop; almost 600 were served through Red Feather Services to the handicapped; nearly 300 benefited from the Golden Age Clubs and the three Red Feather sponsored homes for the aged; more than 3,300 children were cared for in foster homes, day care centers and children's homes; more than 52,000 boys, girls, and adults participated in Boy Scouts, Girl Scouts, Milwaukee Boys' Club, Y.M.C.A., or Y.W.C.A.; and more than 96,000 Milwaukee County citizens were aided by the Red Feather Family Welfare services.

The Red Feather Services aid a lot of people and that's why they are asking for everyone's finincial support. By contributing to the Community Fund you are helping keep young people off the street, you are helping to keep Milwaukee a healthy city, and you are helping to provide a home for the aged.

Community Fund Drive will start on October 4, and when your solicitor asks for your contribution give generously—enough for a full year.

Buy More Bonds

Perhaps YOU are one of those folks who've put off regular savings from year to year because you feel it's too complicated. Saving can be easier than rolling off the proverbial log—if you buy U. S. Saving bonds regularly through the Payroll Savings plan right here in the plant. Just sign your name—Once—at the bottom of a payroll savings allotment blank. From then on, every time payday rolls around, you'll find yourself actually ADDING to your paycheck—in the form of dollars-that-grow. Best of all, Payroll Saving takes care of itself because it's automatic.

Safe—sure — profitable — every $75 invested today brings $100 in ten short years. You can't beat Payroll Savings.

Dan Gray Welcomed On Visit To Plant

Dan Gray, former plant engineer, now retired, stopped off at the plant on August 19 to renew old acquantances.

The Labor Office was the scene of what took on the appearance of Old Home Week as the many friends of Dan's, hearing he was here, stopped in to see him, shake his hand, and wish him well.

Dan is living in Sarasota, Florida; winter quarters of the circus advertised as the "Biggest Show on Earth".

His home, he told us, is built out of cypress wood and requires no inside or outside painting. This item interested our plant painter boss, Max Luke, immensely.

Queried by Bill Williams and Paul Ebert about insect pests, Dan, in his best Chamber of Commerce manner, told of some as big as June bugs but said if sanitary conditions of cleanliness are observed, the insects are under perfect control.

Asked about the climate, Dan said it never goes below 39° F. and that fuel consisting of pine logs burned in a fireplace keeps the homes warm.

Looking hale and hearty, Dan belies his years by at least a score. They tell me he is 76 years of age; he looks to be 50.

Come visit us again, Dan Gray, you will always be welcome.

Everything In Life Needs Management

Management is as old as the hills. There is nothing complicated about it at all. It is a natural function of human society.

A man and woman marry, set up housekeeping, and raise a family. Both are managers.

They manage as they buy a home, educate the children, plant a garden, pick out a car, a refrigerator, a piano. A hundred decisions a day around the house are management decisions.

Management occurs at all levels in government, charity, education, lodge. It is the plumber with his helper, the elevator starter, the superintendent of schools, the master of the grange.

But, in America, management probably has had its most scientific application in business.

Business management, even before World War I, helped build up a volume of production surpassing that of any other nation. In World War II, the results were even more spectacular. America outproduced all other countries combined.

By 1941, the value of an hour of work in terms of the staple necessities of life, bread and butter, had so been raised that an American could buy from 2 to 8 times as much as a man in Europe. That didn't just happen.

Efficiency Of Coke Oven Plants Has Not Kept Pace With Industry

The U. S. Department of Labor reports that the efficiency of by-product coke oven plants in the United States, over a period of years beginning with 1939, has not increased. This efficiency is measured by the output of the number of tons produced in a plant by the total number of men working in such a plant.

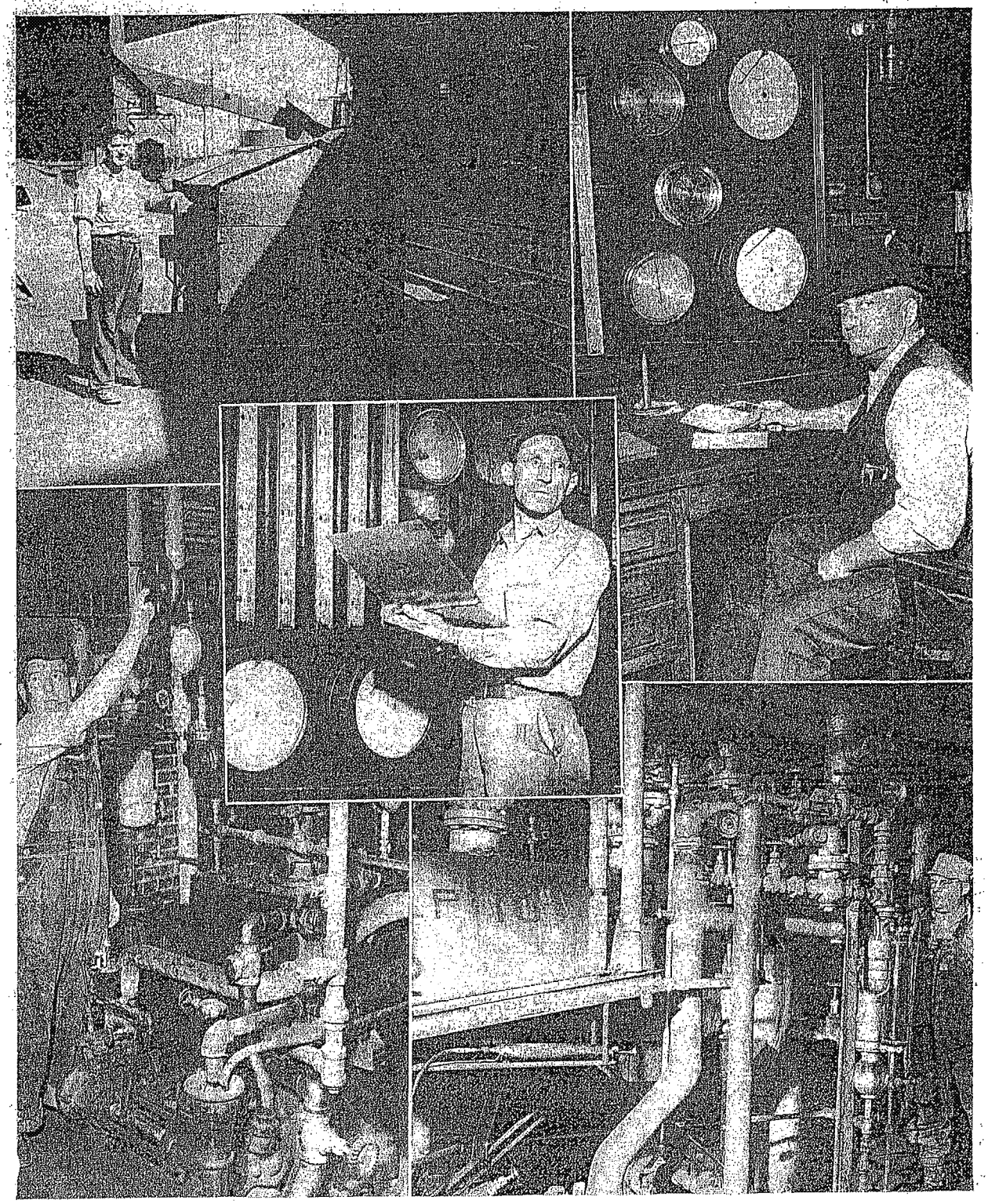
The report shows that if, for example, 100 production workers were employed in 1939, 126 were now engaged in that same production work. During that time production increased from 100 units to 122.4 units. In other words the by-product coke plants in this country have not kept pace with the all industry national average of from 2% to 3% increased productivity each year.

By-product coke plants require a tremendous amount of capital per unit of output and for each man employed in the industry. Here at the Milwaukee Solvay plant the reproduction of the plant at today's prices would require an investment of $48,000 for each man employed. The big need in coke production is for lower capital investment plus higher output per man employed. That is the problem. Who can solve it?

Protect Pension Rights Is Advice To Employees

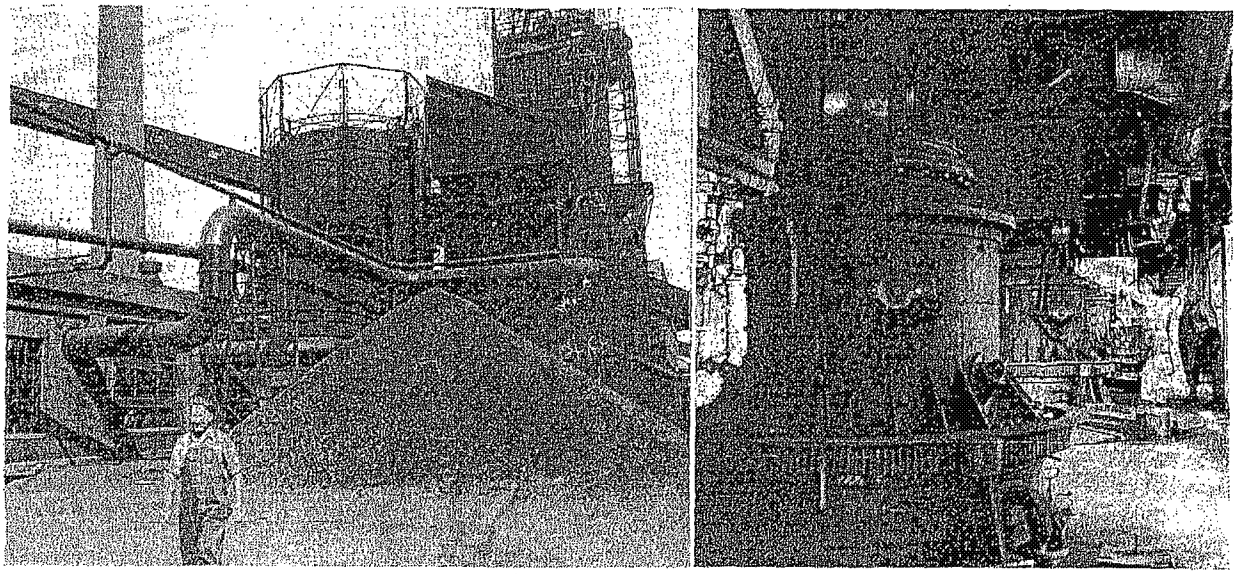
Employees 65 years of age or over, if they have not already done so, should report to the Social Security Office at the Federal Building in Milwaukee. This is important to establish facts concerning your age, wife's age, earnings, and dependents. Reporting this information will speed up the work necessary in establishing your right to a pension at such time in the future when you retire.

They Produce Gas To Make More Gas



Upper left: Barney Felden, fuel man. Lower left: Jake Fleck, booster house engineer. Center: Tom Bachmann, producer operator. Upper right: Art. Voelz, producer foreman. Lower right: Ted Bivens, fireman.

Producer Plant Increases Gas Supply



At the left is a view of the producer plant, showing part of booster house, gas holder, and gas producer building; Jake Fleck is in foreground. Photo at the right is the top of gas producers, showing coke charging apparatus. Producer operator Tom Bachmann and fireman Ted Bivens are in the background.

Back in 1928 when the demand for coke oven gas became so great as to tax the producing ability of the coke ovens, the Milwaukee Solvay Coke Company, after studying ways and means of increasing the gas sendout, decided the most practical way of meeting this increased demand for gas was to build a gas producer plant.

A gas producer plant is composed of apparatus which takes coke as a raw material and turns it into gas as a finished product. The finished product, known as producer gas, is low in heating value and is not suitable for use in city gas mains, but here at the Milwaukee Solvay Coke plant it can be used for heating the coke ovens. By heating these ovens with producer gas, an appreciable quantity of coke oven gas can be sent to the Milwaukee Gas Light Company for city distribution. Because without producer gas heating the ovens, coke oven gas would have to be used for that purpose.

A gas producer is very much like a round iron stove with certain controls on it to insure uniform quality of gas. The gas producers in the Milwaukee Solvay Coke Company plant are cylinders about 10 feet in diameter and about that same height. About ⅔ of the cylinder is surrounded with a water jacket. This is to conserve the heat which might otherwise be wasted. The water jacket produces low pressure steam.

Just like the old-fashioned "pot bellied" stove in the homes of long ago, air is used to keep the fire going and a red hot bed of coke is produced by air forced up through the coke. However, like in the stove in our homes, if an insufficient quantity of air passes through the hot coke incomplete combustion results. That means instead of the red hot coke being consumed by fire and turning into carbon dioxide, CO_2, it completes only half of its combustion cycle and produces the gas, carbon monoxide, CO. Now the difference between CO_2 and CO is in the one molecule of oxygen which was deliberately kept from the fire to produce a gas with one less molecule of oxygen. CO is combustible whereas CO_2 is non-combustible. In other words, carbon monoxide, CO, gas will burn when ignited and carbon dioxide, CO_2, was will not burn. In fact, carbon dioxide, CO_2, gas is used as a fire extinguishing gas.

The process of producing gas is helped by the addition of steam into the gas producer. Steam is blown up into the fire bed along with the air. Its purpose is to enhance the value of the gas by breaking down the steam or water molecule into its constituent parts, namely, hydrogen and oxygen. This augments the oxygen supply, thereby aiding the combustion process and also releasing hydrogen into the producer gas which is a desirable element in that gas. The resulting product, therefore, is a gas which contains CO, carbon monoxide; H, hydrogen; and CH_4, methane, all of which are inflammable and which are the heat carrying elements of producer gas. The other elements of the gas are nitrogen, which is non-combustible and which is blown in with the air, some oxygen, and a small portion of CO_2. Producer gas has a heating value of 130 B.t.u., which is considerably less in heat value than coke oven gas. The latter has a B.t.u. value of 520 heat units.

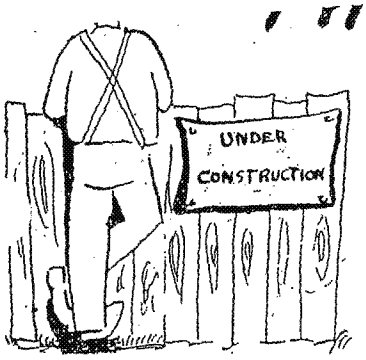
The producer plant consists of six gas producers of 30,000,000 cubic feet total capacity per day, or 5,000,000 cubic feet for each producer. The producer plant also has a steam turbine-driven air blower and a steam turbine-driven gas blower, whose purpose is to blow air up through the producers and to take gas away from the producers and transport it to the coke ovens. The booster house, where these machines are located, has a spare air blower and a spare gas blower, so there is a standby for each set.

Continued on Page 6

Milwaukee Solvay News

No 101 June 1951

The Sidewalk Superintende



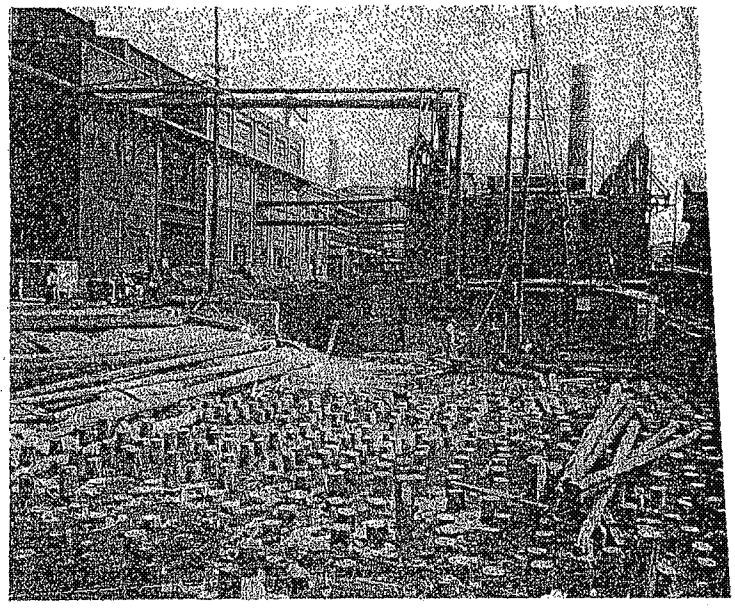
Sez

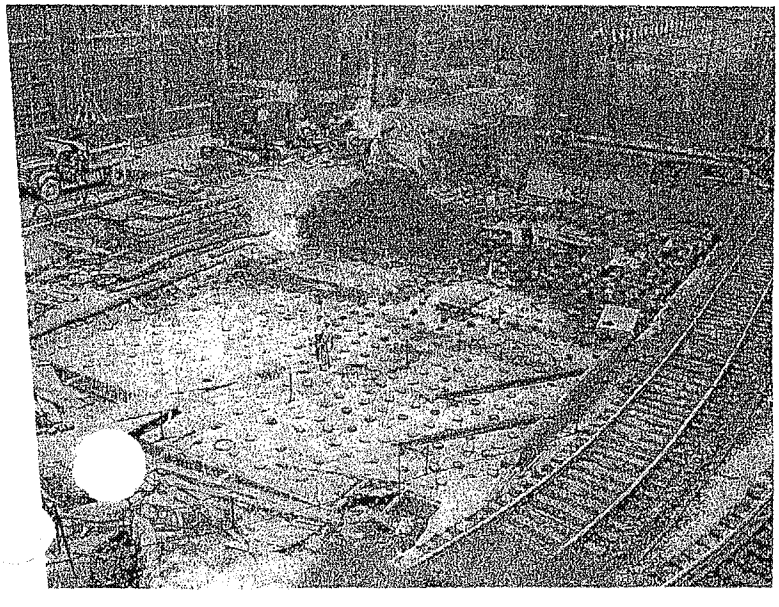
The sidewalk superintendent says that difficulties continue to multiply in the job of constructing a foundation for the new Solvay ovens.

Selection of a length of pile to be driven for a foundation requires some knowledge of the previous history of pile driving in the area, or a knowledge of the soil conditions underneath the foundation. The Company based its computations on the experience it had with pile driving in other areas of the plant. Previous jobs showed that piles of 40 ft. were sufficient in length, and in some locations were too long. In other words, some of the 40 ft. piles could not be driven all the way down.

After excavations were completed for the pile driving operations, penetration on the last blows for the first piles driven indicated that soil conditions were rather soft; and it wasn't long before the Company decided to increase the spacing of the piles from 3½ ft. centers to 2½ ft. centers. This almost doubled the number of piles originally estimated for this job.

Piles driven 150 ft. away for the carpenter op showed a penetration of about ¼ inch, and ecause of the average penetration being between 1 and 2 inches on the job it was decided to conduct load tests on several of the piles. This was done and the tests had a maximum static load of 16 tons on a high penetration pile to 25 tons on the low penetration pile. The tests gave information for actual permissible loading conditions, which information can be used in addition to the theoretical formula. But the delay resulting because of the decision to add more





piles caused more headaches to the materials men and to the contractors who are trying to meet specific schedules insofar as bringing men, materials, and machines together at the right time so that the maximum efficiency results from coordinated efforts.

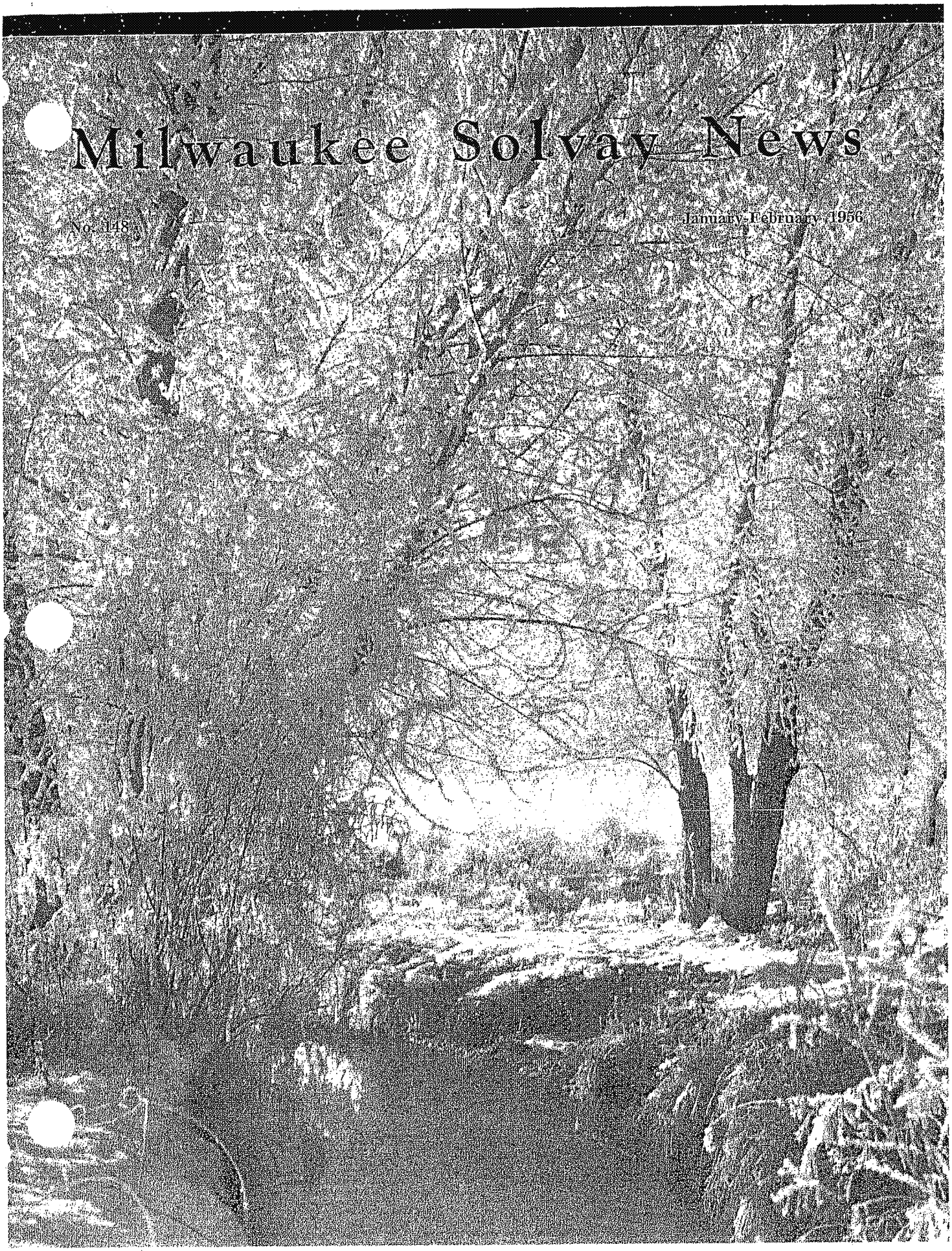
Another cause of some concern was that of driving piles near to the ovens and under power lines which crossed over part of the excavation pit. This work of driving piles in this area, with its limitations of movement, required additional concern and watchfulness on the part of oven operators, the mechanical force, and the contractor.

While the foregoing difficulties are obstacles which cause concern, even though they are a challenge to the ingenuity of the men running the job, there are also some lighter moments resulting from the work. One of these was during the excavation when outmoded and old bottles for liquid refreshment were uncovered. The old maps of the Solvay Plant show that most of this area, on which the Coke Plant is now located, was covered by water and we know that this same location was good fishing and hunting grounds based on the testimony of old timers. So apparently the old Weiss beer bottle, with its spring cap on the outside of the bottle, and the old white soda bottle, with its spring device and plug on the inside of the bottle, are evidences that fishermen fifty years ago, like the present-day enthusiasts, took their bottled refreshment with them and threw the bottles overboard when they were empty. Anyone who remembers seeing these bottles with refreshments in them during their youth, and admits it, is giving an indication of his age. That means he can't play on our ball team today.

It is expected, however, that it won't be long now before the excavation will be full of piles and, after the tops are sawed off at a uniform level, a 2 ft. concrete mat will be poured, with reinforcing steel in the top and bottom. Then contractors will build concrete walls on the mat which will form the bases on which the oven brick work will be laid.

Milwaukee Solvay News

No. 148 January-February 1956



How The Coke Plant Handles Gas

By Rich Meyer

In a tour of the Coke Plant, one of the interesting but often hard to understand operations is the production of gas, incidental to the making of coke. From each ton of blended coal charged into the ovens, about 25 percent will be driven off as gas and coal chemicals in gaseous form during the coking process. This produces about 11,000 cubic feet of gas, per ton of coal.

The gaseous mixture leaving the individual ovens is directed through pipes for purifying and recovery of coal chemicals. A weak solution of ammonia water, commonly called "liquor," is sprayed into the mains to cool the gas, because the gas is over 1600°F. and much too hot for metal pipes. Further cooling is done in large cooling towers. Tar vapors and naphthalene are removed by the sprays in the mains and in the cooling towers. The liquor used to cool the gas is kept cool itself, in another operation, by being constantly passed through coils which are sprayed with mill water. The ammonia, naphthalene, and tar recovered in this manner will be further processed before shipment. Proper operation of these pumps and coolers requires alertness and attention by the men who operate them.

Contains Light Oils

From the coolers the gas goes to the gas pumping, or By-Products Building, which acts as the heart of the plant. Here the gases pass through pumps, under constant supervision of the engineers, and are transferred on for additional processing.

Small amounts of carbon particles and tar remain in the gas after final cooling, and as these impurities would cause trouble in the high pressure pumping equipment and the gas mains, they are removed in the Cottrell precipitators. These precipitators contain steel rods, charged with 66,000 volts of electricity, suspended in metal tubes. As the gas rises through these tubes, the electric charge knocks the impurities from the gas.

Remaining in the gas are other valuable coal chemicals — benzol, toluol, and xylol. They are removed in towers similar to the cooling tower, xcept that the washing medium is a petroleum product called "straw oil." Straw oil picks up, or absorbs, the light oils. The straw oil carrying the light oils heated in a still to release, or strip, the light oils is heated in a still to release, or strip, recirculated in the towers. The light oil operators control this process to insure good efficient operation. After further processing the light oils are sold as pure benzol, toluol and xylol.

From here the gas goes to the gas holder, which is a means of balancing the rate of gas coming off the ovens, with the rate that it is pumped through the plant or out of the plant. Some of the gas leaving the gas holder is returned to the ovens to supply heat for the coking process. The remainder of the gas is returned to the By-Product Building, where the pressure is increased sufficiently to pump the gas to the Milwaukee Gas Light Company for resale to special industrial customers. Before leaving the plant, the surplus gas is metered, and the calorific value, or Btu, is determined by an automatic calorimeter. At present all of the surplus gas is sold by the Milwaukee Gas Light Company to the Milwaukee Sewerage Commission.

Unions Hold Annual Election Of Officers

Newly elected officers of International Chemical Workers Union, Local No. 152, for the year 1956 are:

President—Donald Wert
Vice President—Delbert Gilford
Recording and Corresponding Secretary—Louis Ufnowski
Financial Secretary & Treasurer—Al Kanter
Sentinel—Matt Taylor
Custodian—Frank Herbert
Business Agent—Walter Hohler
General Committee—Chester Habermann
Trustee—Art Salani
Grievance Committee—Chester Habermann, Robert Buchholz, Ray Joers, Roy Peoples, and Frank Herbert

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Norbert Wardinski is the new steward for the men in the Electrical Department, members of the Electrical Workers Union.

Chester Antoniewicz has been elected steward for the men in the Boilermakers Department, members of the Boilermakers' Union.

E

E 29

1965 - 1982 Info

TO: DLF, CLR
FROM: MMC
RE: CLEVELAND CLIFFS
DATE: 10-17-96

I HAD THE OPPORTUNITY TO SPEAK TO RICHARD SCHLIDT THIS AFTERNOON. MR. SCHLIDT WAS EMPLOYED BY MSC, INC FROM 1965-1972 AND AGAIN FROM 1976- 1982. DURING HIS EMPLOYMENT, MR. SCHLIDT HELD THE FOLLOWING POSITIONS:

1965-1972: DRAFTSMAN
CHIEF DRAFTSMAN
ENGINEERING AIDE
CHIEF CHEMIST
ASST. SUPERVISOR OF OPERATIONS

1976-1982: ASST. TO VP (MR. LENTZ)
GENERAL MANAGER

IN EACH OF THESE POSITIONS, MR. SCHLIDT WAS VERY INVOLVED WITH THE MAINTENANCE, REPAIR, CLEANING AND REBUILDING OF THE OVENS, THE COAL GASIFICATION PROCESS AND THE UTILIZATION OF WASTE/BY-PRODUCTS.

MR. SCHLIDT IS FAMILIAR WITH PRUSSIAN BLUE SUBSTANCE AND OXIDE BOX WASTE. HE STATED AT NO TIME DURING HIS EMPLOYMENT DID MSC COLLECT, CREATE OR DISPOSE OF THESE SUBSTANCES. MSC NEVER USED OXIDE BOXES.

MR. SCHLIDT REITERATED THE FACT THAT THE COAL GASIFICATION PROCESS AT MSC WAS VERY EFFICIENT. ALL WASTES AND BY-PRODUCTS WERE EITHER SOLD OR REUSED BY THE COMPANY.

MR. SCHLIDT SPOKE IN DETAIL ABOUT THE PROPERTIES BORDERING THE MSC PLANT. THE PROPERTY KNOWN AS THE "SOUTH YARD" WAS ACQUIRED BY MSC IN 1970. MSC TRADED A PIECE OF PROPERTY KNOWN AS THE "EAST YARD" TO A COMPANY NAMED THOMAS FURNACE IN EXCHANGE FOR THE SOUTH YARD. MR. SCHLIDT STATED THAT THOMAS FURNACE USED OXIDE BOXES.

THE PROPERTY TO THE NORTH OF MSC WAS OWNED BY THE INFAMOUS HYDRITE CHEMICAL

THE PROPERTY TO THE NORTHEAST WAS OWNED BY SINCLAIR OIL CO. MR. SCHLIDT THOUGHT THAT THEY MAY HAVE USED OXIDE BOXES ALSO.

MR. SCHLIDT STATED THAT POLLUTION CONTROL PROCEDURES FOR AIR, WATER, GROUND AND HUMAN SAFETY WERE IN PLACE AT MSC. HE HIMSELF DRAFTED THE GUIDELINES FOR POLLUTION CONTROL AT THE PLANT.

MR. SCHLIDT REFERENCED A LAWSUIT THAT INVOLVED MSC (WDNR V. PICKENS-MATHER MILWAUKEE SOLVAY COKE DIVISION). THE LAWSUIT WAS SETTLED IN 1976.

MR. SCHLIDT IS IN GOOD HEALTH AND IS VERY COMPETENT. HE IS WILLING TO BE QUESTIONED FURTHER. HE CAN BE REACHED AT 645-7328. HIS

OFFICE IS LOCATED AT 2737 S. 31ST STREET. ARRANGEMENTS COULD BE MADE FOR THE INTERVIEW TO OCCUR AT HIS OFFICE.

E 30

WI Gas Carl Claussen Interview

MEMORANDUM

TO: Wisconsin Gas - Milwaukee Solvey

FROM: PRReckmeyer

DATE: October 6, 1993

RE: Summary of Interview with Carl Claussen

This memorandum summarizes my telephone interview with Carl Claussen (210-558-6539) on September 28, 1993. Also present during the interview was Bob Hoffer of the Wisconsin Gas Company.

Relationship with Milwaukee Solvey. Mr. Claussen was an Assistant Secretary with both the Milwaukee Solvey Coke Company and Milwaukee Gas Light Company from 1950 through 1962. Mr. Claussen said that his appointment as Assistant Secretary was merely a formality for the purposes of signing papers. He never attended any Board meetings and he could not recall ever signing documents on behalf of Milwaukee Solvey or Milwaukee Gas Light Company. Mr. Claussen stated that his primary duties were as Vice President of American Natural Gas Company, where he was the chief assistant to the President, Mr. McElvenney. Mr. Claussen said he also was an Assistant Secretary for numerous other subsidiaries of the holding company American Natural Gas.

Background on Milwaukee Solvey. According to Mr. Claussen, American Natural Gas purchased Milwaukee Solvey in 1928 from Koppers Company, Pittsburgh, Pennsylvania. Mr. Claussen was aware that Milwaukee Solvey was owned by Milwaukee Gas for several years but he could not identify which years. Mr. Claussen recalled that Milwaukee Solvey was sold in 1962 to

Pickens Mathers. Mr. Claussen believes that Pickens Mathers was subsequently purchased by Cleveland Cliffes.

Milwaukee Solvey's original ovens were solvey ovens. Around 1928, Milwaukee Solvey installed ovens manufactured by the Koppers Company. Mr. Claussen believed that the Koppers Ovens were more efficient, less costly to run, cleaner, and created less waste. He could not recall whether the ovens were installed prior to the sale.

Mr. Claussen said that he was instrumental in negotiating the sale of Milwaukee Solvey to Pickens Mathers. Mr. Claussen was the one who found Pickens Mathers as a buyer. It was a logical buyer since Pickens Mathers was already in the process of purchasing coke from Milwaukee Solvey. At the time of the sale in 1962, the Solvey ovens were in poor condition. They were still operational at that time but very expensive to maintain. If the Solvey ovens were not replaced, it is likely that substantial contamination would have been caused by the Solvey ovens.

Other contacts. Mr. Claussen mentioned the name of Albert Mueller as a person to contact. Mr. Mueller was a Vice President of Milwaukee Solvey in the late 50's and early 60's. Mr. Mueller apparently was a "coke man" and knew coke operations extremely well. Mr. Claussen said he would be very knowledgeable on any issues covering disposal practices, contamination, and operational problems at Milwaukee Solvey. Neither Mr. Claussen nor Mr. Hoffer knew the whereabouts of Mr. Mueller.

Influence and Control. As far as Mr. Claussen knew, Milwaukee Solvey operated independently from the parent American Natural Gas and Milwaukee Gas Light. Mr. Claussen said that American National Gas had picked Mr. Kreuz to run Milwaukee Solvey because of Mr. Kreuz's substantial knowledge and experience in coking operations. According to Mr. Claussen, the President of American National, Mr. McElvenney, did not want to interfere with the operations of Milwaukee Solvey because Kreuz knew the coke operation so well. Coking operations were outside of the scope of normal business of American National. Thus, American National left Mr. Kreuz alone to run the Solvey's operations. Mr. Claussen the same applied to Milwaukee Gas Light. It was hoped that Milwaukee Solvey would make enough profits in order to provide some dividend income to the parent company.

Influence over Expansion. Mr. Claussen said that American Natural did not have control over the expansion of Milwaukee Solvey's business. He was not aware of whether or not Milwaukee Gas Light controlled expansions during its period of ownership, however, he did say that the transfer to Milwaukee Gas Light was done as a convenience in order to keep Milwaukee Solvey within the network of companies underneath American Natural Gas. Mr. Claussen said that after the expansion of natural gas into the Midwest American Natural decided against making any substantial expenditures in Milwaukee Solvey because the domestic market for

coke was disappearing. Milwaukee Solvey's key remaining market remained as foundry.

Mr. Claussen said that American Natural Gas did not make any capital expenditures into Milwaukee Solvey. In addition, he admitted that financing for subsidiaries was generally controlled by American Natural Gas. However, he pointed out that Milwaukee Solvey did not need outside financing after the addition of the Kopper's ovens in 1928. Furthermore, the equipment reached the point where American Natural had to either abandon the facility, replace the ovens or sell the business. American Natural could not replace the ovens because the SCC would not allow American Natural to put any major money into Milwaukee Solvey's business operations because Milwaukee Solvey was not an integrated utility operation under the Holding Act. Thus, they were really faced with two options either to abandon the facility or sell the business. At the time of the sale, Mr. Claussen was called in to resolve a labor dispute which if not resolved would have barred the sale of the business. This problem was resolved by Mr. Claussen. As a result, the business was sold to Pickens Mathers.

Contribution. Mr. Claussen pointed out several times that Pickens Mathers may have operated the Solvey ovens beyond their useful life, which may have substantially contributed to the contamination. At the time of sale, the Solvey Ovens were in poor condition. They were becoming increasingly more expensive to maintain. They had to be either replaced or retired.

9/29/93 H:\PRR\wis.mil

Dear Kelly Cochrane

I am enclosing the last material I have on this subject I can not be of any further help

Good luck.

Earl Larsen

From my very brief conversation with Mr. Hoffer, I got the impression that there is a suit against all the previous owners of the Coke company on the grounds that the coke ovens caused pollution. I believe it would be desirable to get the opinion of an expert on coke ovens to determine whether the Solvay ovens or the Koppers ovens were the princiap contributors to any claimed pollution. Inasmuch as the Koppers ovens were considered to be an improvement over the Solvay ovens, it may be that the Koppers ovens could not be found to have the cause of any polltution. Further, if the old Solvay ovens were the chief cause of any claimed polltuion, then it would be important to know whether or not Pickands Mather, who purchased the Coke Company in 1962, continued to operate the old Solvay ovens. Pickands Mather may have decided not to invest the two or three million dollars required to replace the old Solvay ovens with new Koppers oven. Inasmuch as these Solvay ovens were at least 60 yeqrs old and in very poor condition, probably their continued operation bym Pickards Mather greatedly contributed to any claimed pollution.

Pickards Mather was merged into another company several years ago. I believe it was an Ohio Company. It might have been Cleveland Cliffs.

Chas H therington moved from the United States to Canada many years ago. some years he was in Calgary, Manitoba. My wife and I visited Hetherington in Calgary some 20 years or so ago. I do not know if he is still living. He was President of Westcoast Transmission for a few years, and then he headed up some Artic project of the government of Canada. It is just possible that Hetherington still has a copy of his report of about 1960, but that would seem very unlikely.

First, I will quote from my talk in November, 1964 about the story of American Natural Gas Company.

"In 1928 the Company purchased Milwaukee Solvay Coke Company from the Koppers Company through issuance of its own stock.

~~American Natural had acquired the Milwaukee Solvay Coke Company in August of 1928, and~~ In the 1928 annual report the statement was made that the coke business has been better than expected. The further statement was made that "there is a great deal of coke being made in the central part of the country, but we believe there is still room for a great deal more use of it for domestic fuel as it becomes popularized for beyond all question it is the best solid fuel adapded to domestic use. In 1962 American Natural sold the Coke Company after many years of declining business. End of quote from my talk. Now I have some comments which may be helpful.

Your records show the mperiod of ownership by Milwaukee Gas Light of the Coke Company.

At the time American Light purchased the Coke Company from Koppers, the headquarters of Koppers were in Pittsburgh. For many years the stock of Koppers was listed on the New York stock exchang . This stock disappear d from the New York stock exchange ten or fifteen years ago. I presume that Koppers was acquired by another company. I believe there was a connection between Koppers and the Mellon Bank--probably interlocking directors. I believe that the Mellon Bank could tell you what happene to the Koppers Company.

The Coke Compamy ~~operations~~ commenced operations about 1900-give or take a few years. The original ovens were Solvay ovens. About the time American Light purchased the Coke Company in 1928, the capacity of the plant was increased by the installation of Koppers ovens. I do not know if this was just before or after American Light purchased the Coke Company. I presume that the minutes of board meetings of the Coke Company are no longer available; if they were, then the minutes would have information about the installation of the Koppers ovens.

In m1960.Mr. McElvenny asked me to make a study of the Coke Company to see if earnings could be increased. The study was to include the desirability and possibility of selling the Coke Company. We employed Charles Hetherington to help in the study of the operations and the condition of the plant. Hetherington, in turn employed an expert on coke ovens to determine the condition of the ovens.

[illegible] for agency yr -- Your own minutes will show the [illegible]

American Light purchased Milwaukee Solvay Coke Company in 1928 from the Koppers Company through issuance of stock.

In 1962 American Natural sold the Coke Company to Pickands Mather Company of Chicago. This is the only pertinent information about the Coke Company in the text of a talk which I gave in 1964 about the American Natural system. What follows is my knowledge and recollection of this matter.

At the time American Light purchased the Coke Company from the Koppers Company, the latter company headquarters were in Pittsburgh. For many years the stock of the Koppers Company was listed on the New York stock exchange. This stock disappeared from the New York exchange about ten or fifteen years ago. I presume that the company was acquired by another company. I believe there was a connection between the Koppers Company abd the Mellon Bank of Pittsburgh--probably interlocking directors. I believe that the Mellon Bank could tell you what happened to the Koppers Company.

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I worked on the sale of the Coke Company for a year or so before its sale in 1964. We employed Chas. Hetherington to analyze the operations of the Coke Company before we came to the decision to sell it. The object of Hetherington's study was to see if operations could be improved as earnings had been declining for several years. Hetherington employed some coke expert--I do,not recall the name. When I was still working--I retired April 1, 1971--I still had a file on the operations and sale of,the Coke Company. That file included a copy of Hetherington's report and probably also a copy of the report of the coke expert whom Hedherington hired. I presume that file was destroyed many years ago. I have some recollection of what was said in that report. It is my recollection that the report,stated that the Koppers oven installed about 1928 were an improvemnet over the Solvay ovens installed around 1900. When we sold the Coke Company in 1962, the old Solvay ovens were still operating, but were in very poor condition. The report stated that these old Solvay ovens should be replaced as soon as possible.

Chas Hetherington moved to Canada many years ago. For many years he was in Calgary. My wife and I visited Hetherington in Calgary some 20 years ago. I do not know if he is still living. In the later years of,his career he headed up some Artic project for the Candian government.

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The Solvay ovens had been requiring increased and expensvie maintenance.

I was still with American Natural--I retired April 1, 1971-- I still had a file on the sale of the Coke Company. I am sure that file contained Hedherington's report, and probably the report of the coke expert hired by Hetherington--although I am not sure about that--Hetherington may have kept that report and used it to assit him in making his report. I presume that this file was destroyed long ago. I have some recollection of what was said in that report. It stated that the Koppers ovens installed around 1928 were an improvement over the old Solvay ovens. When we sold the Coke Company in 1962, the old Solvay ovens were still operating, but werein very poor condition. Pickands Mather, the buyer of the Coke Company, were aware of the poor condition of the old Solvay ovens and that they should be replaced. In fact, I used that point in my negotiations with Pickands. I said that the SEC, under the provisions of the Holding Company Act, would not give permission to American Natural to make an investment of two or three million dollars in the Coke Company. for ovens to replace the old Solvay ovens.

From my very brief conversation with Mr. Hoffer last week, I got the impress that there is a suit against allof the previous owners of the Coke Company on t grounds that the coke ovens c used pollution. I believe it would be de- s. ble to get the opinion of an expert on coke ovens to determine whether the Solvay ovens or the Koppers ovens were the principal contributors of any claimed pollution. (Note that I used the word "claimed"--I worked many years with lawyers.) Inasmuch as the Koppers ovens were considered to be an improvement over the Solvay ovens, it may be that the Koppers ovens could not be found to have caused any pollution. Further, if the Solvay ovens were the chief cause of any pollution, then it would be important to know if Pickands Maeher continued to operate the old Solvay ovens. It may be that Pickands decided not to make the investment of the two or three million dollars required to replace the old Solvay ovens. Continued operation of these old Solvay ovens may have beam a substantial contributor of any pollution. At the time the Coke Company was sold to Pickands, the Coke Company had a Vice President in charge of operations--with a German name, who was very knowledgeablt about the plant. If he is still living--very doubtdul--it would be helpful to talk with him.

F

Gas Kills Two at Coke Plant

Six Workers Overcome in Valveroom; Find Clamp Was Broken

Two workers were asphyxiated when they tried to stop the flow of deadly illuminating gas that was seeping into the valveroom from a a damaged "cleanout" pipe at the Milwaukee Solvay Coke Co. plant, 311 E. Greenfield av., late Thursday. Six other workers who sought to rescue their two companions were overcome and taken to the hospital.

The dead:

Rudolph Schauer, 29, of 3139 S. Mabbett av.

Frank Sich, 48, of 1047 W. Clybourn st.

Those overcome were Richard Ol[illegible]9, of 334 E. Burdick st., night superintendent; Charles Schauer, 28, of 522 E. Potter av.; Carl Jasma, 25, of 1439 S. First st.; Frank Jurenecz, 42, of 318 N. Thirtieth st. and James Johnson, 34, of 1912 N. Seventh st., a negro, and Louis Bowers, 37, of 1316 N. Seventh st., a negro.

Firemen Shut Off Gas

A roken clamp on the "cleanout" pipe allowed the gas to seep out, filling the valveroom, according to firemen and police. After futile efforts had been made by employes to shut off the flow of gas, a fire department rescue squad wearing gas masks succeeded in closing the valve. The gas, drawn off in the manufacture of coke, is highly poisonous. Later the broken cylinder clamp was discovered by Capt. John Pavlik of Rescue Squad No. 2 and was taken to police headquarters by Deputy Inspector Joseph Drewniak.

Drewniak, after questioning the survivors and other workmen, reconstructed the tragedy. He said the Schauer apparently had gone to inspect the valveroom and must have been overcome as he was trying to close the valve. His body was found lying only a few feet from the leak.

Sich went into the room shortly afterward, saw what had happened and tried to stem the flow of gas but was also stricken. The six others went in to rescue the stricken men and were overcome. Other workers, however, succeeded in removing all the victims except Schauer by the time the rescue squad had arrived

Fail to Revive Two

The gas thrown off in coke manufacture has a high content of carbon monoxide and is heavier than air, so that it lies close to the ground, Capt. Pavlik said.

The rescue squad worked with inhalators on the eight stricken men but Schauer and Sich failed to respond to treatment and were pronounced dead on arrival at St. Luke's hospital. Several workers suffered slighlty from the effects of the gas but did not require treatment.

Sich is survived by his wife, Mary, and two daughters, Theresa and Mary. He was formerly employed by the Milwaukee Gas Light Co. and had worked for the Solvay firm only since last summer.

Schauer, who attended Bay View High school, had been employed nine years by the company. His brother, James, works at the plant. Schauer is survived by his parents, Mr. and Mrs. Matt Schauer, sr.; five brothers, James, Anton, Matt, jr., Albert and Ray, and two sisters, Mae and Mrs. Josephine Schauz.

Rudolph Schauer

Funeral services for Rudolph Schauer, 29, who was asphyxiated at the Milwaukee Solvay Coke Co. plant, 311 E. Greenfield av., Thursday, will be held at 8:30 a. m. Monday at the residence, 3139 S. Mabbett av., and at 9 a. m. at the Church of Immaculate Conception. Burial will be in Holy Cross cemetery.

Frank Sich

Funeral services for Frank Sich, 48, one of two workers asphyxiated at the Milwaukee Solvay Coke Co. plant Thursday, will be held at 8:30 a. m. Monday at the Mueller chapel, 2435 W. Vliet st., and at 9 a. m. at Sacred Heart church. Burial will be in Holy Cross cemetery.

Hold Coke Plant Deaths Accidental

Following an inquest Friday, Coroner Frank J. Schultz held that the death last week of two workers at the Milwaukee Solvay Coke Co. plant was accidental.

The men, who died from asphyxiation when they tried to stop a flow of deadly illuminating gas that was seeping into the valveroom from a damaged "cleanout" pipe, were Rudolph Schauer, 29, of 3139 S. Mabbett av., and Frank Sich, 48, of 1047 W. Clybourn st.

Six other workers were overcome and taken to the hospital.

Alfred Brill, 4410 W. Lloyd st., an engineer for the coke company, testified Friday that both lives could have been saved if Schauer, who was attempting to close the valve, had first removed the heavy corrugated sheeting used to keep the cold out of the valveroom. Removal of the sheeting would have provided ventilation, Brill said.

Coke Embargo Lifted in Part by Fuel Union

Delivery of Outside Product to Be Permitted; Menace to Other Workmen's Jobs Given as Reason

A union "embargo" on delivery of coke by AFL truck drivers in Milwaukee was lifted in part Monday to permit hauling coke manufactured outside of the city to industrial and commercial places here. Coke manufactured by the Milwaukee Solvay Coke Co., sole Milwaukee producer, remained under the ban, union leaders announced.

George J. Ritchey, secretary-treasurer of the Coal and Ice Drivers' union, Local 257 (AFL), which called the strike, said the ban on "outside" coke was lifted because the inability of a number of firms to obtain coke had hampered operations and threatened the jobs of a number of workers.

Refusal of the union to handle certain trucks here followed a price cut last week which in turn narrowed the dealers' margin. The union claimed that the small margin would tend to lower wages.

"The union has no fight with outside coke producers who have agreed to maintain favorable margins for the dealers," Ritchey said. "At first we decided to bring these producers under the same ban because dealers handling the Milwaukee product feared they would lose customers. The union feels that it is important to maintain as many jobs as possible, however, and consequently has decided to modify the ban so far as outside firms are concerned." Company officials, informed of the new development in the "embargo," refused to comment.

Fuel Firm to Cut Output of Smoke

Air Pollution - Final

By AL MORITZ

POLLUTION REPORT

The Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., is drafting plans for a smoke control unit at a coke oven and searching for ways to contain dust from the one million tons of coal and coke it handles each year.

In the last year it installed a "louver system" on the second coke quenching tower, thus reducing by 95% the particle emissions from the two towers, which were the company's main source of air pollution.

A meeting of the Milwaukee Air Pollution Control Department with the company's management to review progress toward better smoke and dust control at the plant is scheduled for this week.

According to Fred R. Rehm, director of the county Air Pollution Control Department, the system for cleaning up emissions from the quenching towers is nearly complete.

Tackling Other Problems

"But we still have other areas in the operation that are problems," says Frank Ticknor, superintendent of operations for Milwaukee Solvay, "and we're working on those now."

The Milwaukee Sentinel investigated air pollution from Milwaukee Solvay as a result of a pollution coupon sent by a reader who said he worked at the Transport Co. bus garage at S. Kinnickinnic Ave. and E. Mitchell St.

He complained of black dust from "a foundry" scarring the paint on cars parked in the area. There is a building of the Grede Foundry Co. in the neighborhood, but it produces no smoke or dust.

Milwaukee Solvay was identified as the source of the smoke.

Ticknor said a smokestack which carried exhaust from a coke oven was usually clear but was now emitting particles and dark smoke because a summer drop in business had forced the oven to operate at an inefficient, less than capacity rate.

Solvay's engineering department is drawing up plans for a smoke control unit to permanently eliminate this problem, Ticknor said.

He said the company's most serious remaining air pollution problem was the escape of coal dust into the air during the handling of coke and coal.

In addition to cleaning the air, Ticknor said, "it would help us from an economic standpoint if we could find an inexpensive way of controlling the loss" of the coal dust, valuable in the coking process.

Expensive Pollution

Escape of material through dust and spillage during handling is a major source of pollution and of profit loss, especially in the coal and ore businesses. As much as 10% of a cargo usually is lost this way between its mining and its final use as fuel or raw material.

Rehm said the Milwaukee Solvay Coke Co. was located in the heaviest dustfall area in the county. He said his department had done much work on reducing particulate matter in the area's air and the Solvay Co. had been co-operative. "A good portion" of the problem is due to Solvay, he said.

Ticknor said the two "louver systems" were installed in the coke quenching towers at a cost of about $40,000. He explained their operation this way:

Coke is made by heating coal in a vacuum. In this way, impurities are burnt out and the coal is hardened into coke without being consumed. Coke is an industrial fuel used in steel making and other processes.

Steam a Problem

When the coke is removed from the airless coke oven, water is poured on it to cool it so that its great heat does not cause it to catch fire.

The water is poured from quenching towers, and a plume of steam carrying dust, grime and coal fragments results. The louver is a filter through which the steam is passed. It is filled with complicated passageways which knock down particles but allow the steam to escape.

Ticknor said the louvers have passed the "white shirt test." A man can stand near the exiting steam without getting grime on his shirt, he said.

Even with the quenching towers under control, it will be a long time before particulate emissions from Milwaukee Solvay cease. The company has not yet come up with a means of controlling its dust loss problem.

And, according to Rehm, even if Solvay were to clean itself up entirely by tomorrow, the area would still have serious air pollution and a high level of particulate matter in the air.

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Smoked Out

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MIL. JOURNAL

Students Get Real Look at Complaints to D. A.

It was supposed to be mock complaint day to allow Milwaukee County students to study the workings of the district attorney's office.

The Milwaukee County Department of Air Pollution Control, however, unwittingly gave the high school students the real thing.

One of the mock complaints to have been acted out for the students was a smoke violation by a nonexistent firm.

The 40 students had just shown up for the session in the office of Dist. Atty. E. Michael McCann when O. E. Dudy, an officer of the pollution control agency, brought in a real complaint against Milwaukee Solvay Coke Co., 311 E. Greenfield Ave.

Dudy contended that smoke coming from the firm's coke ovens Monday exceeded acceptable county standards. As the students watched, McCann questioned Dudy and Jerald Lenz, a vice president of the firm.

McCann said he would issue a corporation summons for the plant later Wednesday.

Wednesday morning, the students were shown how complaints were issued for shoplifters, protect demonstrators and juvenile auto thieves.

The 40 students from several high schools were participating in Student County Government Day.

MIL. JOURNAL MARCH 10, 1971

State Plans to Sue Firm on Pollution

Air Pollution - Ind

By Paul G. Hayes
of The Journal Staff

The attorney general plans to take formal action soon against the Milwaukee Solvay Coke Co., a firm that probably is Milwaukee's most serious single air polluter, an aide of Atty. Gen. Robert W. Warren said Tuesday.

The aide said an investigation of the firm, at 311 E. Greenfield Ave., began last summer by students working in the attorney general's STOP (Students to Oppose Pollution) program.

He said a suit would be filed soon under the state's public nuisance statute. The attorney general has used the statute in other air pollution cases against two power plants, including Wisconsin Electric's Oak Creek plant.

Milwaukee Solvay, located just west of Jones Island since 1903, makes coke for foundries in 200 coking ovens. It employs 375 men, according to Jerald Lenz, its vice president.

Lenz acknowledged Tuesday that the operation produced air pollution in several ways, although he added that the technology to control it did not exist. He said federally supported research was underway at two coking plants in the east.

Last month, a proposed state plan for controlling two air pollutants — sulfur dioxide and suspended particulates — in southeastern Wisconsin said "a coking operation" in Milwaukee posed a special problem.

By law, it could not name Solvay Coke, but Solvay is the only coking operation in southeastern Wisconsin.

Studies Date Back

The report concluded that air quality standards for both pollutants could be met in the region by enforcing the state's administrative rules, except for the coking operations and some quarries in Racine and Waukesha Counties.

Fred R. Rehm, Milwaukee County Air Pollution Control Engineer, said the county had studies dating from 1954 showing that the area around Solvay Coke was the county's dirtiest area in solid matter pollution.

Rehm said his department had been sending an inspector to the plant five days a week this winter to try to measure the amount and kinds of pollutants from the plant.

However, he said, this was a difficult job. He said much of the coking operation was performed in the open air, so the pollutants are not trapped in smokestacks where they could more easily be measured and controlled.

He said the attorney general's investigation and the county's were unrelated, although the attorney general had used information from Rehm's files on request.

Meetings Held

E. J. Mapes, a public relations man for Pickands Mather Co., Cleveland, the parent company of Milwaukee Solvay, said the attorney general had been conferring about the problem with officials from the parent company.

Mapes said the production of coke involved baking coal in airtight chambers, a process that drives out volatile substances, leaving a much purer form of carbon.

Coke burns much hotter than coal and is used in blast furnaces in the manufacture of steel and in foundries. Mapes and Lenz identified the phases of the operation that produced air pollution:

The finely ground coal is unloaded and stored outside. Strong winds, which are frequent near the lake, drive coal dust into neighboring areas.

The ovens are loaded from cars on tracks above the ovens. As it drops into the hot ovens, the coal bursts into flames, causing smoke and gas pollution.

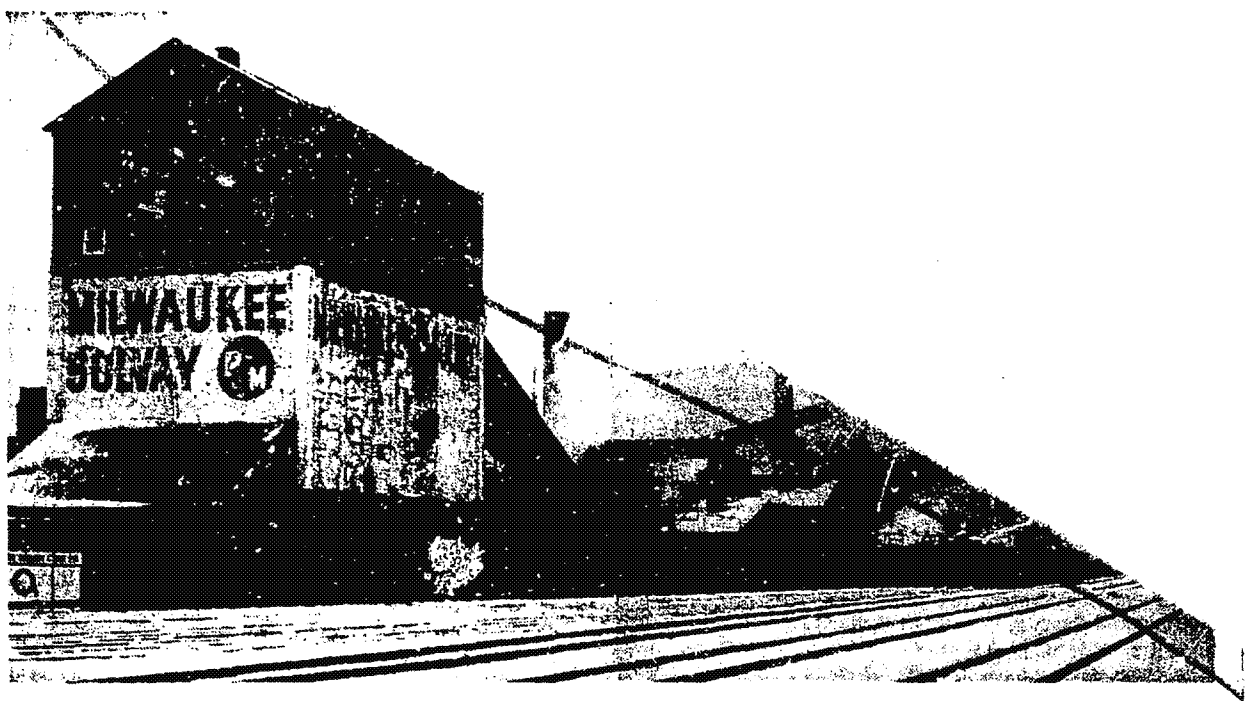
The ovens are sealed and heated by natural gas. In the process, the coal fuses together into a single large cake of coke. When the oven is opened and the coke pushed out, it blazes again in the open air, releasing more smoke and gas.

The burning coke is delivered to a quenching tower, where the fires are put out. Then it is crushed and screened, another operation that produces particulate pollution.

Lenz said the crushing operation took place in buildings not completely covered, but that corrective equipment had been ordered and he hoped it would be in place by June.

Rehm said that in the past the firm had tried to spray compounds on the coal piles to control the dust, but the compounds gummed up the ovens.

He said, too, that another source of pollution came from fine cracks in the oven wall between the coal and natural gas chambers. This was partly controlled, he said, by blowing silica sand into the ovens where it melted and sealed the cracks.



—Journal Photo

The attorney general expects to take formal action against the Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., considered by some to be Milwaukee's most serious single air polluter.

32 Firms Meet Air Standard

By LARRY ENGEL

Control programs have been completed by 32 of 82 Milwaukee County industries, businesses and municipalities told to comply with a 1968 ordinance aimed at greatly reducing air pollution.

Another 16 programs should be completed by July 4, according to a status report submitted Friday to the County Air Pollution Control Advisory Board.

Fred R. Rehm, county air pollution control director, also reported that:

● Fifteen firms would be unable to complete control programs by the July 4 deadline.

● Nine plants have been shut down, relocated or will be closed.

● Four firms have claimed they are not in violation of the ordinance and may require a smokestack test.

● Five municipalities and a foundry have failed to file an acceptable control program.

Rehm said Friday he expected the board to meet this spring to consider requests for extensions from the 15 firms unable to complete their control programs by July 4.

Rehm reported that Wauwatosa, West Allis, South Milwaukee, Shorewood and Whitefish Bay had failed to file an acceptable control program for their municipal incinerators.

Barclay Foundry, Inc., 4239 W. Lincoln Ave., also had not filed an acceptable program, Rehm said.

He said the nine plants that have been or will be shut down or relocated employed 1,186 persons. The air pollution control requirements were a prime factor in some of the nine cases, he said.

Supervisor Fred N. Tabak challenged Rehm's remarks. "I really think you are way out of your field if you start making studies to how why people shut down," Tabak said.

One of the 15 firms that will be unable to complete its air pollution control program by July 4 is Allis-Chalmers Mfg. Co., 1126 S. 70th St., West Allis.

MAR 13 1971

"You came so close to losing Allis-Chalmers and its 6,000 jobs in this community that it isn't funny," Rehm said.

Rehm's report listed Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., as having completed its air pollution control program for the firm's coke quenching operation.

An aide for the state attorney general has been quoted as saying that the state will take legal action to curb alleged pollution by the coke company.

Defends Firm

"This is just another case of someone grabbing headlines as far as I am concerned," Rehm said. Solvay Coke had done all that the county had asked to abate pollution, but technology has not yet reached the point of permitting a complete solution of the problem, Rehm explained.

Prosecution of ordinance violators could not begin unless he had results of smokestack tests as evidence, Rehm said.

He told the advisory board that his department had neither the funds nor staff to make such tests.

The board unanimously authorized Rehm to ask the County Board for funds to make smokestack tests.

The ordinance that imposed the July deadline was intended to reduce air pollution from smokestacks by 40% to 60%, and was termed the most important advance in the fight against air pollution here in 20 years.

Sees Major Expense

Rehm estimated that the ordinance will require installation of control equipment costing $32 million.

The ordinance allowed air polluters up to one year to determine their control needs and file a control plan. It gave Rehm authority to grant up to two years time for purchase and installation of equipment.

Up to one year of additional time can be granted by the County Air Pollution Control Appeal Board, headed by Atty. Robert F. Kirst.

MAY 20 1971 SENTINEL

Pollution Charges Filed

A Milwaukee coke firm and a Canadian ship line were charged Wednesday with violating the county's air pollution ordinance.

Named in corporation summons were Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., and Hindman Transport Co., Ltd., East Owen Sound, Ontario.

The complaint against Hindman said that a county air pollution control agent on April 29 saw the SS Ruth Hindman, moored at 325 S. Muskego Ave., emitting thick smoke from 1:32 to 3:20 p.m.

On May 3, an agent saw thick smoke being emitted from a smoke stack at Milwaukee Solvay for a six minute period, according to the complaint against that firm.

JUNE 30 1971 JOURNAL

Firm Fined $25 for Air Pollution

The Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., was fined $25 plus $14 court costs Tuesday by County Judge Christ T. Seraphim for a violation of county air pollution standards.

The violation involved the emission of heavy black smoke for about six minutes May 3 that was witnessed by an official of the Milwaukee County Department of Air Pollution Control.

The firm pleaded no contest to the violation.

SEPT. 9, 1971 JOURNAL

Solvay Faces Another Charge

For the second time this year, the district attorney's office charged the Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., Thursday with violating the county's air pollution control code.

It was the first time a corporation had been charged with a repeat violation, according to Asst. Dist. Atty. Charles Hassmann.

The company pleaded no contest to a similar charge June 29 and was fined $25. The maximum penalty for second offense is a $100 fine. Conviction on a third charge would empower the county to dictate changes in a violator's operations to control smoke emission.

Wednesday's charge said the company's stack emitted black smoke for 30 minutes beginning at 12:30 Aug. 6.

Many Firms Heed Edict on Pollution

Forty-eight of 82 companies and governmental units cited two years ago as major air polluters have or soon will have complete abatement programs, the county's air pollution control director disclosed Friday.

Fred R. Rehm told the Air Pollution Advisory Board, however, that 15 firms and government bodies were not expected to complete their programs within time extensions he granted them. Six have not filed acceptable programs, four claim they are not violators and nine have shut down, relocated or indicated they will close their doors.

The control program required the firms to install the latest air pollution abatement equipment available at the time the oders were issued, Rehm said. The target was solid matter escaping into the air. Gas pollutants, discovered since, were not covered. Sometimes the cost ran into the hundreds of thousands of dollars, he said.

Many that have not completed programs were hampered because of the unavailability of equipment, strikes and other uncontrollable factors, Rehm said.

Unacceptable control plans were filed by South Milwaukee, Wauwatosa, Shorewood, Whitefish Bay and West Allis — all for municipal incinerators — and by the Barclay Foundry, Inc., 4239 W. Lincoln Ave.

Some Firms Closed

Shutdowns solved the pollution problems of Albert Trostel & Sons Co., 1716 N. Commerce St.; C. Reiss Coal Co., 103 N. 6th St.; John Hanser Soap Co., 3000 W. Hampton Ave.; US Disciplinary Barracks, 6081 N. Hopkins St., and city incinerators at 641 E. Erie St., 5240 N. Green Bay Ave. and 4025 W. Lincoln Ave.

National Metal Products Co. moved its foundry out of the county from 4914 N. 35th St. and Rex Chainbelt plans to close a foundry at 1600 W. Bruce St.

Four companies claim they are not polluters and expensive tests may be required, Rehm said. They are the White Construction Co. asphalt plant, at 11340 W. Brown Deer Rd. Belt Line Grain, 1300 S. 43rd St., West Milwaukee; the Riebs Co., 639 S. 29th St., and Kurth Malting Corp., 2100 S. 43rd St., West Milwaukee.

These are the companies that will not complete programs within a two year deadline expiring July 4:

Foundries and smelters: Ampco Metal, Inc., 1745 S. 38th St.; Allis-Chalmers, 1127 S. 70th St., West Allis; Falk Corp., 3001 W. Canal St.; Milwaukee Malleable & Grey Iron Works, 2773 S. 29th St., and Motor Castings Co. plant No. 1, 1323 S. 65th St., West Allis.

Grain or malting: Krause Milling Co., 4220 W. Burnham St., West Milwaukee; Froedtert Malt Corp., 4616 W. Grant St.; Continental Grain Co., 960 S. Bay St., and Cargill, Inc., 335 S. Muskego Ave.

Miscellaneous: Wisconsin Electric Power Co., Oak Creek and Edison Street plants and the Veterans Administration facility at Wood.

These firms have completed programs:

Asphalt plants: Peting Mix & Construction Co., 124 E. Rawson Ave., Oak Creek; Carol O. Schneider Corp., 4887 N. 31st St.; Sherwin Corp., 2129 W. Morgan Ave.; White Construction Co., plant at 2543 W. Groves St.; Highway Pavers, 12101 W. Silver Spring Dr.; Stark Asphalt Service, 11710 W. Hampton Ave.; Payne & Dolan of Wisconsin, 5831 W. Rawson Ave., Franklin, and the city of Milwaukee Traser St. plant.

Cement handling: Perin Dixie Cement Corp., 1304 W. Bruce St.

Foundries and smelters: Milwaukee Valve Co., Inc., 2275 S. Burnell St.; Mid City Foundry Co., 152: W. Bruce St.; Grede Foundries, 6432 W. State St., Wauwatosa; Briggs & Stratton Corp., 1706 S. 66th St.; Pelton Steel Casting Co., 148 W. Dewey Pl.; Appleton Electric Co., 2105 5th Ave., South Milwaukee; Crucible Steel Casting Co., 2850 S. 20th St., and Milwaukee Malleable & Grey Iron Works, 2773 S. 29th St. (malleable furnaces).

Grain and malting: Pabst Brewing Co., 917 W. Juneau Ave., and Jos. Schlitz Brewing Co., 235 W. Galena St.

Indirect heat exchangers: American Linen Supply Co., 1003 W. North Ave.; Allis-Chalmers, 1127 S. 70th St.; Unit Drop Forge, 1903 S. 62nd St., West Allis; Harnischfeger Corp., 4400 W. National Ave., West Milwaukee; General Electric X-Ray Co., 4855 W. Electric Ave., West Milwaukee; Wisconsin Electric Commerce St. and Lakeside plants; Continental Can Co., 4300 N. Port Washington Rd., Glendale; Transport Co., 4212 W. Highland Blvd.; Nunn Bush Shoe Co., 2555 N. 5th St.; Milwaukee County Institutions, 9650 W. Watertown Plank Rd., Wauwatosa, and Rex Chainbelt, 4700 W. Greenfield Ave., West Milwaukee.

Miscellaneous: Milwaukee Solvay Coke Co., 311 E. Greenfield Ave.

The controls at Milwaukee Solvay are for the coke quenching operation. Other operations are at issue in an anti-pollution action by the state attorney general's office.

Rehm declared there was no way to halt the additional pollution short of closing down the operations. The attorney general's action amounted to "Grabbing Headlines," Rehm declared.

Firms that have indicated they will complete their programs by July 4 are:

Marquette Cement Manufacturing Co., 745 W. Canal St.; Universal Atlas Cement, 712 W. Canal St.; Nordberg Manufacturing Co., 3073 S. Chase Ave.; Appleton Electric Co., 2105 5th Ave., South Milwaukee (cupola operation); Vilter Manufacturing Corp., 2217 S. 1st St.; Rex Chainbelt (malleable furnaces); International Harvester Co., 1714 W. Bruce St.; Federal Malleable Co., 805 S. 72nd St.; Motor Casting Co., 657 S. 72nd St.; Bucyrus-Erie Co., 1100 Milwaukee Ave., South Milwaukee; Grey Iron Foundry, Inc., 1501 S. 83rd St.; Stainless Foundry & Engineering, Inc., 5150 N. 35th St.; Pioneer Foundry Corp, 1905 S. 1st St.; American Motors Corp., 3880 N. Richards St.; Miller Brewing Co., 4000 W. State St., and Acme Galvanizing, Inc., 2730 S. 19th St.

Final plans were made to have each county department submit ideas on how it might contribute to an antipollution campaign. Supervisor Fred Tabak, who initiated the effort, said ideas might include use of nonleaded gasoline, nonsulfurous coal or soaps without phosphates; reduced power consumption, and saving waste paper and cans for recycling.

MAR. 13, 1971 JOURNAL

PLAT 2

olluters Heed Edict

Pollution Charged to Coke Firm

SEPT. 10, 1971
MIL. SENTINEL

Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., was charged Thursday for the second time this year with violating the county's air pollution ordinance.

The firm is a division of Pickands Mather & Co., Cleveland, was fined $25 June 29 on a similar charge.

Another division of Pickands Mather, the Interstate Steam Ship Co., was also charged Thursday with violating the air pollution ordinance.

The complaint against the steam ship company said that a county inspector saw the C. H. McCullough an ore freighter, emitting thick, dark smoke for 25 minutes Sept. 2 while docked in a slip at 311 E. Greenfield Ave.

The complaint against the coke company said an inspector saw dense, dark smoke coming from a chimney for half an hour on Aug. 6.

THU JAN 13 1972 PART 2 MIL. JOURNAL

DA to Push Case Against Coke Plant

The Milwaukee district attorney's office has told Milwaukee Solvay Coke Co. that it is seeking three air pollution convictions against the plant. Three convictions would empower the county to close the plant if necessary.

Charles J. Hausmann, assistant district attorney, said the notice was given in order to pave the way for the case to be decided ultimately by the County Air Pollution Appeals Board.

The county already has obtained one conviction. A second charge is pending now and was the cause for recent meetings between the plant, its parent company — the Pickands Mather & Co., Delaware — Hausmann and the County Air Pollution Control Department.

Hausmann said he wanted Solvay Coke to stipulate to the third conviction. Solvay Coke has not agreed to do so and has asked for a trial on the second charge.

Milwaukee Solvay, in operation since 1903, makes coke for foundaries in 200 coking ovens west of Jones Island. The operation has been singled out as one of the city's most troublesome sources of air pollution.

A proposed air pollution control implementation plan for Wisconsin cites a "coking operation" in Milwaukee as a major source of particulate matter and harmful gases. Solvay is the only coking operation in the Milwaukee area.

For nearly a year, the firm has been conferring with the Wisconsin attorney general's office on a public nuisance complaint.

A spokesman for the attorney general said Thursday that agreement was imminent on a proposal under which Solvay would install an array of air pollution control equipment by March, 1972.

However, Hausmann said, even if the equipment was installed, at a cost, he believed, of about $400,000, the operation still would not meet air pollution control requirements of the state's plan.

Hausmann said the firm was told that neither the district attorney nor the County Air Pollution Control Department could waive the requirements of the state plan, if approved.

In that case, he said, the firm could stipulate to the third conviction, and the case could go to the County Air Pollution Appeals Board.

Firm Gets Clean Air Order

JAN. 28, 1972
SENTINEL

An order requiring a comprehensive program of air pollution control and monitoring at the Milwaukee Solvay Coke Co. plant, 311 E. Greenfield Ave. was signed Thursday by Circuit Judge Harvey L. Neelen.

Neelen's order was in response to a Circuit Court complaint against the plant, a division of Pickands Mather & Co., a Delaware corporation, by State Atty. Gen. Robert W. Warren.

Warren's complaint, filed Thursday, alleged that the coke plant operation is a public nuisance under state law.

The complaint asked the court to perpetually restrain the firm from operating "in such a manner as to create a public nuisance."

The complaint also asked the court to order the firm to install equipment to abate the public nuisance "by substantially reducing the emission of noxious fumes, smoke gases, soot and other particles and chemicals."

Neelen, in issuing the order, stayed the granting of an injunction and a hearing on the merits of the suit. The firm, in a written answer to the complaint, denied the allegations by Warren.

The stay was granted on condition that the firm immediately initiate a comprehensive program to substantially reduce emissions from the plant.

The program would include installation of air pollution control equipment and air quality monitoring devices, and changes in plant operation. The entire program would have to be completed within the next two years.

During that time, Warren and his assistants would have the right to enter the coke plant to inspect progress of control and monitoring efforts. The firm also must submit quarterly progress reports, stating March 1, 1972, to Warren and Neelen.

Attached to Neelen's order was a stipulation in which Warren and a representative of Milwaukee Solvay Coke mutually requested that Neelen grant a stay of the injunction and hearing provided that the conditions in the order are met.

Solvay Coke Acts to Cut Soot, Dust

JAN. 28 1972
JOURNAL

The Milwaukee Solvay Coke Co. Thursday formally agreed to an elaborate program of air pollution control, involving equipment that might cost up to $400,000, to bring down levels of dust, soot and gas that come from the plant at 311 E. Greenfield Ave.

Details of the agreement were contained in a stipulation filed Thursday afternoon before Circuit Judge William I. O'Neill. Under the agreement, Atty. Gen. Robert W. Warren will not seek to close the plant under the public nuisance law.

The agreement came after months of negotiations involving the attorney general's office, Milwaukee Solvay and its parent company, Pickands Mather & Co. of Delaware. Under it the firm, which makes coke for foundries, would:

Continue to operate and maintain air pollution controls installed in 1968 and 1969 and continue with efforts to seal leaking coking ovens with silica dust begun in 1970.

Begin spraying coal piles and install equipment in the coal storage areas to minimize blowing dust by this March 15.

Install equipment to reduce particulate emissions from the coke crushing and screening operations to two-tenths of a pound of dust per 1,000 pounds of gas, meeting the Wisconsin air pollution code by March 15.

Control dust from the coke loading operation by spraying it with water, with the equipment installed by March 15.

Assign an employe each shift to make certain that the oven lids are promptly and properly sealed after the coal is loaded into them to reduce the levels of gas and coal dust, starting March 15.

Immediately start designing equipment to reduce particulate emissions from the coking ovens. The equipment should be installed on half the ovens by Sept. 1, 1972, and on the other half by Sept. 1, 1973.

Reduce faulty equipment on the ovens, by April 1, 1973.

Contract for continuous air quality testing at four sites along the company's property lines by July 15 and report the findings to the attorney general two months later.

If sulfur oxide gases are found to exceed state standards, report on the progress of developing technology for sulfur oxide control and how much money it has spent for research.

Report progress on the overall abatement program to the attorney general every three months, starting March 1.

The firm has been identified as one of Milwaukee County's most troublesome pollution sources. It has been converting coal to coke in some 200 coking ovens on the site west of Jones Island since 1903.

Still to be resolved is a pending case filed against the firm by the district attorney's office. The district attorney is seeking a second conviction of the plant for air pollution violations in the last few months. Three convictions would empower the county to close the plant.

Solvay Coke, DA Agree to Smog Pact

FEB. 14, 1972
JOURNAL

An agreement between the Milwaukee Solvay Coke Co. and the district attorney was signed Monday, putting the firm under tougher requirements to control its air pollution than required in an earlier agreement with Atty. Gen. Robert Warren.

Under the agreement with the attorney general, the company had said it would install about $350,000 worth of air pollution control equipment to reduce dust, soot and gas from its plant at 311 E. Greenfield Ave.

In the agreement signed Monday in the office of Dist. Atty. G. Michael McCann, the firm further agreed to keep abreast of developing technology to control visual emissions from its smokestack and pollution caused when coke coal is removed from coking ovens.

At present, there is no technically possible way to control those areas of pollution. Under the agreement, if it becomes possible later, the firm will put in new controls.

For its part, the County Air Pollution Control Department has agreed to support the firm's request for time extensions required to install the equipment by May, 1975.

The request will be made before the Milwaukee County Air Pollution Control Appeals Board.

Then, the firm will appear in court and plead no contest to a charge brought by the district attorney that it has violated air pollution control ordinances. This is the second such case in less than a year. Three convictions in a year would permit the county to close the firm.

Under the agreement, if the firm fails to carry out its promises, it not only could be cited for contempt of court but the county could put into effect a procedure under which it could get three convictions in an accelerated period of time and move in to close the firm.

Jerald Lenz, Solvay vice president, called the agreement an "ambitious program that will not be easy to accomplish, especially under such stringent timetables."

Lenz added that the firm had pledges of co-operation from the six unions with workers at the plant. About 370 men, mostly members of Local 152 of the Chemical Workers, are involved, he said.

FEB. 18, 1972
SENTINEL

Firm to Ask Pollution Extension

The Milwaukee Solvay Coke Co. will ask the County Air Pollution Control Appeal Board Friday to give it additional time to abate pollution from two processes of the company's operation.

Fred R. Rehm, the county air pollution control director, said the Appeal Board under present ordinances could only grant the company until July 4 of this year to correct the pollution problem.

Rehm said the company could not stop the pollution from the two phases of its operation because the pollution control equipment required had not yet been perfected.

The company, which makes coke for foundries in a plant west of Jones Island, has been ordered by Circuit Judge Harvey L. Neelen to develop a comprehensive program of pollution control and monitoring. The order was prompted by a complaint by Atty. Gen. Robert W. Warren, charging that the coke operation was a public nuisance because of particulate matter and gases released into the air.

The district attorney's office also is seeking three air pollution convictions against the plant.

The appeal hearing is set for 2 p.m. in the Courthouse.

Solvay Fined $100 for Smog

FEB. 25, 1972
JOURNAL

The Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., was fined $100 Friday for violating the county air pollution ordinance.

The firm pleaded no contest to having permitted heavy black smoke to be emitted from its smokestack Aug. 6, 1971.

County Judge Louis I. Drektrah of Black River Falls, sitting here, levied the fine.

Drektrah included a stipulation reached between county officials and the firm under which the firm promises to spend $350,000 to control air pollution problems there, in exchange for a grace period during which the county will not close down the plant.

FEB. 1 1973 JOURNAL

Solvay Coke Cutting Back

Milwaukee Solvay Coke Co. is in the process of shutting down half its ovens by May 1 for economic reasons, a spokesman said Thursday

Jerald R. Lenz, vice president of the company, said that the shutdown would result in laying off 100 employes and that air pollution would be reduced considerably. The firm has been cited for pollution problems.

Lenz said the company had 200 ovens which are used to make coke for foundries. Fifty were closed Wednesday and Thursday, he said. Layoffs from among 340 employes will start at a date not yet determined, he said.

"The earliest would be two weeks," Lenz said.

He said the ovens were more than 50 years old and inefficient by modern standards. In addition, the coke market has stabilized because some foundries have converted to electricity. A guaranteed large coke market would have to be available to make it economical to build new ovens, he said.

Production will be reduced about 40% rather than 50% because the ovens that will continue in use are more efficient, Lenz said.

The company at 311 E. Greenfield Ave., was begun in 1903 and is the largest coke producer in the state.

It has been working with state and county officials to reduce its pollution problems, Lenz said.

"The one good thing in this — the one ray of sunshine — is that the ovens being shut down are the worst (pollution) offenders," he said. "It will reduce considerably the amount of pollution, perhaps 60% to 70%. That's just a guess on my part."

Solvay Coke Gets Extension

The Milwaukee County Air Pollution Control Appeals Board has granted the Milwaukee Solvay Coke Co. an extension of time until July 4 to install air pollution control equipment.

The extension was signed Monday night, Atty. Robert Kirst, board chairman said. The action was the first step in a long agreement worked out between the district attorney, the Air Pollution Control Department and the firm.

Under it, the firm will install a variety of air pollution controls in the next few years. If it meets deadlines set forth in the agreement, the county will not proceed to close down the operation at 311 E. Greenfield Ave.

JOURNAL

Coke Firm Offers Cleanup Revision

SENTINEL

WE MAR 13 1974

Representatives of the Milwaukee Solvay Coke Co., a major Milwaukee air polluter, Tuesday presented a revised schedule for completion of air pollution controls.

However, no delay in completion of the project should result, company spokesmen said.

The company has been cited for violations of state and federal clean air codes by the State Department of Natural Resources, the County Air Pollution Control Department, the US Environmental Protection Agency and the courts.

The revised scheduled, plus testimony by Solvay spokesmen on current measures to clean up pollution, were presented to DNR hearing examiners during a public hearing at the State Office Building, 819 N. 6th St.

The company spokesmen said the deadline of May 1, 1975, will still be met. The changes are in the pushing and charging process of producing coke.

Solvay Coke Co., 311 E. Greenfield Ave., is a division of the Pickands Mather Corp., of Milwaukee.

Thomas J. Manthey, public relations director for Pickands Mather Corp., testified that the company; is now in compliance with emission codes.

Richard Wales, DNR environmental engineer, however, said the company did not use correct information and may be violating rate of emission codes.

Six other industries asked for extensions to deadlines for air pollution control. Representatives said previous deadlines, which ranged between March 1 and July 15, could not be met because of shortages of solvents or fuel.

The firms asked for delays up to one year, but a spokesman for the DNR said all controls must be in effect by Jan. 1.

The six firms are: J. I. Case Co., of Racine; Beatrice Manufacturing Co., of Bristol; RTE Corp., of Waukesha; Koehring Co., PCM Division, of Port Washington; West Bend Co., of West Bend; and the Carnation Co. Can Division, Menomonee Falls.

Time Hasn't Healed Pollution Ills

Journal Photo by Benny Sieu

Workmen at Solvay Coke move quickly to seal openings in the top of a coking oven after loading it with coal.

Wisconsin Takes Solvay Coke to Court in Air Pollution Case

The Wisconsin Department of Justice took legal action Tuesday to stop the Milwaukee Solvay Coke Co. from allegedly polluting Milwaukee air.

In a complaint filed in Circuit Court here, the Department of Justice accused the company of failing to limit particulate emissions in compliance with a 1974 order from the Department of Natural Resources (DNR). It also accused the company of repeatedly violating a state administrative code dealing with air standards in the operation of its 100 coke ovens.

The Justice Department asked for an injunction against Milwaukee Solvay and its parent company, Pickands-Mather Co., Cleveland, Ohio, and for fines of not less than $10 nor more than $5,000 per day for each day of violation, beginning May 1, 1975.

The action came after more than a year of consideration by the Attorney General's Office. The case was referred to the attorney general in November, 1975, after state officials contended that the plant had failed to meet a July 1, 1975, federal deadline for compliance with air quality standards.

About six years ago, state and county officials agreed with Milwaukee Solvay officials on a plan to reduce the plant's pollution. Thomas Manthey, an official with Pickands-Mather, said earlier this year that the firm had spent about $750,000 on air pollution control equipment in the past six years.

But DNR officials contended that the plant, which dates back to the turn of the century, still produced unacceptable levels of airborne particulate matter. In particular, officials are concerned about emissions when the coke is removed from the ovens and when it is loaded onto rail cars.

Federal officials have also taken action against the company. About two weeks ago, the Midwest Regional Office of the US Environmental Protection Agency issued a Notice of Violations, charging the company with emitting more than 130 tons of particulates per year. Existing regulations on paraticulate emissions allow about 34 tons a year.

A meeting between federal and company officials is tentatively set for July 13 in Chicago to discuss the notice of violations, according to a federal official.

Pollution Suit Names Coke Firm

A Circuit Court complaint to halt alleged air pollution by Milwaukee Solvay Coke Co., 311 E. Greenfield Ave., was filed here Tuesday by the State Department of Justice.

The suit alleged that the company has failed to limit its particulate emissions as ordered by the State Department of Natural Resources in 1974.

The company, in its operation of 100 coke producing ovens, has repeatedly violated a state administrative code dealing with air quality standards, according to the suit.

The court was asked to order the company to stop the alleged air pollution and pay a fine of not less than $10 nor more than $5,000 a day for each day of the alleged code violation since May 1, 1975.

Solvay Agrees to Pollution Pact

Milwaukee Solvay Coke Co. was ordered Friday to pay the largest forfeiture ever levied by the state in an air pollution case — $53,250.

In addition, the company has agreed to spend $1.5 million on air pollution control equipment for the plant, located at 311 E. Greenfield Ave.

The action came in a settlement of the suit, which was brought by the State Department of Justice in November, 1975. It was signed by Milwaukee Circuit Judge John A. Decker after the Justice Department and the company reached an agreement. State officials contended that the plant failed to meet a July 1, 1975, federal deadline for compliance with air quality standards.

The forfeiture was calculated at a rate of $35 a day from May 1, 1975, when the company was told to comply with a Department of Natural Resources' order until July 1, 1979, when the pollution control equipment was to be in operation.

If the equipment is not in operation by that date, an additional $100 a day forfeiture will be imposed. Atty. General Bronson La Follette said the $35 a day rate acknowledged that until now technology to control coke overemmissions was not available and that the company had been making good faith efforts to reduce pollution.

Pollution Abatement Plan OK'd

Sentinel Madison Bureau

Madison, Wis. — Pickands Mather & Co., operator of the Milwaukee Solvay Coke Co., has agreed to install air pollution abatement equipment costing $1.5 million at its E. Greenfield Ave. plant, Atty. Gen. Bronson La Follette said Friday.

A judgment by Milwaukee County Circuit Judge John Decker also requires the firm to pay $53,250, the largest forfeiture ever imposed in Wisconsin for air pollution from particulate emissions, La Follette said.

The attorney general said the fine is figured at $35 a day from May 1, 1975, when the coke company was supposed to be in compliance with a Department of Natural Resources order, to July 1, 1979.

If the pollution control equipment is not in operation by July, 1979, the company must pay $100 a day until it is installed, La Follette said.

"This judgment will achieve two important objectives, cleaning up the air as soon as possible (and) preserving the 250 jobs and tax base provided by the continuing operation of the plant," he stated.

La Follette said a trial and possible appeal could have delayed the settlement.

"The $35 per day rate acknowledges that, until recently, technology to control coke oven emissions was not available and that the company has been making good faith efforts at reducing pollution," La Follette said.

Firm's 'Token' Fine Assailed by Group

FEB 18 1978

Milwaukee Solvay Coke Co. received a token fine for air pollution and thereby gained an advantage over its competitors, an environmental group charged Friday.

In a letter to the US Environmental Protection Agency (EPA), William Forcade, director of research for Citizens for a Better Environment, said the EPA should fine the company a minimum of $700,000 plus $380 per day after July 1, 1979, until it meets air pollution standards.

Earlier this month, the company forfeited $53,250 in a settlement of a court suit brought by the State Department of Justice. The forfeiture is the largest ever imposed in Wisconsin for air pollution from particulate emissions.

The company also faces fines of $100 a day if it does not install $1.5 million worth of air pollution control equipment for its E. Greenfield Ave. plant by May 1, 1979.

By then, Forcade said, the company will have saved nearly $560,000 because it did not meet a May 1, 1975, cleanup deadline.

Failure to impose a larger fine "would create a tremendous incentive for Wisconsin industries to delay any compliance ordered in the future until taken to court," he said.

In reaching the settlement, the state said the company had been making good faith efforts to reduce pollution and that technology to control coke oven emissions had only recently been developed.

Stiffer Fine Urged for Solvay Co.

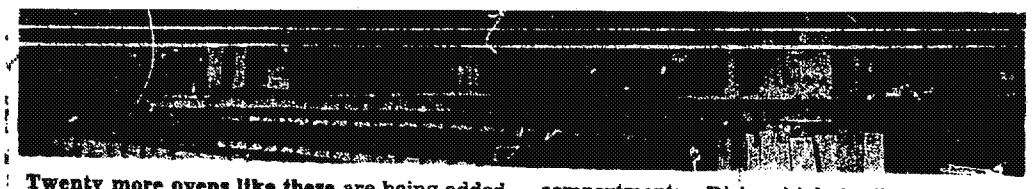
SJ FEB 19 1978 PA 2

An environmental group has urged the US Environmental Protection Agency to increase greatly the fine imposed by state officials on Milwaukee Solvay Coke Co. for polluting the air.

In a letter to James MacDonald, the EPA's chief enforcement officer in Chicago, Citizens for a Better Environment said the fine was much too small to offset the competitive advantage the company gained by not complying with antipollution standards.

Earlier this month, Milwaukee Solvay agreed to pay a fine of $53,250 to settle a suit brought by the State Justice Department. The fine, for failing to comply with particulate emission standards, was the largest such penalty ever levied by the state.

However, Citizens for a Better Environment said, Milwaukee Solvay saved $560,000 by failing to meet a May, 1975, deadline to reduce its emissions. The group charged that the company was responsible for almost four-fifths of the particulate pollution in the Menomonee Valley.



Twenty more ovens like these are being added to the 180 already in operation at the Milwaukee Solvay Coke Co. plant at the foot of E. Greenfield av. The ovens here look like grillework, but between the light colored vertical metal projections are the doors to the coking compartments. Rising high in the air is the coal storage facility which loads the wheeled vehicle which in turn carries coal to the ovens. The long ramp houses a belt which carries coal to the storage building. About 11 tons of coal are loaded in each oven. —Journal Staff

New Ovens Will Boost Coke Plant's Production

Coal by Thousands of Tons Made Into Gas and Byproducts for the Chemical Industry

By ROBERT H. HOULEHEN
Of The Journal Staff

Work has been started at the Milwaukee Solvay Coke Co. plant at the foot of E. Greenfield av. on 20 new coking ovens. When the $1,200,000 project is completed next December, the production capacity of the plant in coke, tar and various other coal derivatives will be increased 11%.

The gas to be produced by the new ovens will replace to some extent butane gas now used to help supply the metropolitan sewerage plant.

Coke is still the main product of the 48 year old plant, but it is having about as much trouble supplying users of the coking byproducts as it is in supplying industry and homes with coke. The 20 new ovens will alleviate some of the strain on the plant's facilities, according to Louis Kreuz, president.

Big Plant in Size

While dollarwise the coke company is not one of Milwaukee's biggest industries, its 40 acres of buildings and coal and coke storage areas make it one of the major physical plants.

With the exception of a major rebuilding in 1921-'22, the plant has remained substantially the same since it was built in 1903. It started out with 160 coking ovens. Eighty were replaced in the rebuilding and 20 more were added.

Coke and gas were the major products in the early years, but in 1915 rising demands for benzol gave new impetus to operations at the plant, Kreuz said.

Changes in Ownership

There have been other changes since the days when the Schlesinger family here founded the original Milwaukee Coke & Gas Co. The Milwaukee Gas Light Co. contracted to buy all the gas in 1906 and in 1927 the coke firm, previously renamed the Milwaukee Solvay Coke Co., was bought by the Koppers Co., a major producer of tar and chemical products.

The next year Koppers sold the firm to the American Light & Traction Co., which was and still is the parent of the Milwaukee Gas Light Co. American Light & Traction now is called the American Natural Gas Co. The Gas Light Co. bought Solvay in 1947.

The coke firm's gas output now is bought by Milwaukee sewerage plant, but a stand-by service is maintained in case the natural gas service of the Gas Light Co. is interrupted.

The biggest change in operations in the last three decades has been the growth of coal derivatives. These products—chemicals, sulfa drugs, dyes, fertilizer, household ammonia and others—are doubly amazing when followed through from the coal which arrives by boat at the Solvay docks.

Little Beauty at Plant

There is little beauty at the coke plant, excepting an iris bed at the office door. The air is often full of coal dust.

Because coke is the big product, the production story starts at four vast mixing and crushing bins in which coal is blended and pulverized. Lumps are screened out through ⅛ inch mesh screen and crushed again until all the coal can be filtered through the screen.

"The heart of the plant is the 180 ovens," an official explained. "The ovens furnish much of their own heat, because some of the gas generated by the heat from the burning coal is pumped back in to heat flues in the fire brick walls between the ovens."

The ovens consist of compartments 30 feet long, 11 feet high and 17 inches wide, with tight fitting doors at each end. Coal—11 tons to an oven—is dropped into the ovens through hatches in their tops from wheeled coal carrying cars. Coal reaches the cars from a storage building mounted high over the ovens, moving to the building by conveyor belt.

Long Period of Heating

After a heating period of 17½ to 30 hours at a temperature which finally reaches 2,000 degrees, each oven is emptied of its glowing mass of coke by a ram which reaches in through a front door from a wheeled apparatus. As it emerges from the back door, the glowing rectangular mass tumbles into heat resisting metal cars which carry the coke for quick cooling under a water bath.

"We have to douse the coke quickly because it starts to burn in the open air," the official explained.

"The secret of gas and vapor production in the ovens lies in heating the coal in an atmosphere from which oxygen is excluded. The coal, therefore, does not burn, but only throws off moist matter until it becomes virtually pure carbon. The doors are sealed with clay to keep air out."

Blast furnace coke is heated for 17½ hours, foundry coke for 30 hours to meet the special demands of those industries.

Byproducts Are Valuable

Reclaiming the valuable byproducts of coal is chiefly a matter of distillation in which the desired materials are turned into vapor, then cooled back into liquids. There is little to see at Milwaukee Solvay which would indicate what is happening to the gas. Great pipes carry the gas and vapor from the ovens into towering dark buildings filled with enclosed tanks and distilling apparatus.

In the first building through which the hot gas passes it is cooled by a water spray. The tar in the gas collects in globules on hundreds of wooden grids, while ammonia is carried off in the water.

The ammonia, a valuable product much in demand, is boiled out of the water until it can be drawn off as vapor. As the official pointed out, the ammonia is lighter than water and so turns into vapor faster. The tar drips off the grids and is collected in its own processing plant.

Collect Various Chemicals

The gas from the ovens also contains a light oil from which three other chemicals are drawn, benzol, tuluol and xylol. In another building the gas again passes through grids where a petroleum oil something like crankcase oil is exposed to the light oil. The oils unite and the mixture in turn is drained off for further distillation by boiling. Naptha solvent also is captured. The remaining gas is sold as such.

Milwaukee Solvay does not process the byproducts any further, leaving that for the chemical firms which buy the liquids.

Daily the firm ships about 15,000 gallons of tar to the Koppers Co. plant at Carrollville. Here it is processed into road tar, creosote or other tar derivatives. Broken down further, the tar can become a synthetic for nylon stocking yarn manufacture or sulphopyridine, a pneumonia treatment chemical.

Production on Increase

In March Milwaukee Solvay produced 380,525 gallons of tar, compared with 355,133 a year previously. It produced 252,364 pounds of ammonia, compared with 292,089, and 148,484 gallons of light oil products, compared with 131,983.

Ammonia is used for household and industrial ammonia, and because of its high nitrogen content, for fertilizer. It also is used as a refrigerant and in explosives. Tuluol is a source of literally hundreds of chemicals, including lacquers, saccharine, artificial musk and explosives.

Xylol is used as a paint solvent and as a source of many other chemicals, including dyes, motor fuels and flotation oils. Benzol is similar to gasoline and is used for similar purposes. It provides the antiknock in gasoline, as well as dyes, rubber solvents, photographic developing agents and acids.

In terms of coke, this is what Milwaukee Solvay has been producing: In March it turned out 47,304 tons, compared with 37,058 a year previously. To obtain this figure, plus the byproducts, it consumed 55,863 tons of coal in March, compared with 54,905 a year previously. All the figures show the rising output which has lead to the expansion of the ovens, it was pointed out.

The coke industry is so important that without it the vital iron and steel industry would be paralyzed. It is a relatively young industry. The first modern coke ovens in America were built in 1892 at Syracuse, N. Y. There are 86 coke plants in the country with about 16,000 ovens. They use about 97 million tons of bituminus coal a year.

Approve Solvay Loans

The securities and exchange commission Saturday authorized the Milwaukee Solvay Coke Co. to borrow $1,200,000 for expansion of coke making facilities. The firm will borrow $800,000 from the First Wisconsin National bank and $400,000 from the Marine National Exchange bank.

WE MAR 10 1982 ST

Millions breathe chemical peril, group says

Washington, D.C. —AP— Millions of Americans living around chemical plants, oil refineries and coke ovens are being exposed to a long list of known or suspected cancer-causing chemicals, an environmental group charged Tuesday.

The National Clean Air Coalition released a list of 312 plants in 37 states — including Wisconsin — and two territories that it said were belching the dangerous chemicals into the air because the government was dragging its feet in regulating them.

"More than 3 billion pounds of these chemicals are spewed into the air we breathe each year," said David Doniger, a spokesman for the coalition. "Millions of Americans are breathing chemicals that can cause cancer and other killing diseases."

The coalition said it obtained its figures from reports done in 1979 and 1980 by the Environmental Protection Agency.

The EPA for 12 years has been investigating what type of restrictions it should impose on chemicals suspected of causing cancer. So far, the EPA has regulated four chemicals — asbestos, beryllium, mercury and vinyl chloride — and is studying restrictions on three others: benzene, arsenic and radionuclides.

But that leaves 37 suspect chemicals that the EPA has made no determination on. The coalition said it supported a measure, being sponsored by Rep. Henry Waxman (D-Calif.) that would require the EPA to begin imposing emission limits on those chemicals within a year or issue a finding that the chemical posed no public health risk.

EPA officials said the agency had moved slowly because it was difficult to prove a link between illnesses and air pollution laced with low levels of certain chemicals.

But the coalition cited a study estimating that between 11% and 21% of all lung cancer cases were caused by air pollution.

"With the public's lives and health at stake, it is reasonable to begin controlling individual pollutants that are known or suspected to cause cancer," Doniger said.

Doniger said Congress should require action as part of its reauthorization of the Clean Air Act because EPA Administrator Anne Gorsuch would put up "only more procrastination and even deeper resistance" to cracking down on chemical pollution.

But EPA spokesman Byron Nelson said it was unfair to blame the Reagan administration for past delays. He said Gorsuch was committed to increased regulation of chemical air pollution.

Nelson said he could not comment on the specific information made available by the Clean Air Coalition until the agency had time to review it.

Doniger said the lists were prepared by consultants working for the EPA in 1979 and 1980 and were based either on actual measurements at the plants or on estimates of how much pollution each plant was emitting. All plants emitting at least 10,000 pounds annually of one or more of 33 suspect chemicals were on the list.

Of the 37 states with plants on the list, Texas had the most at 53, followed by Louisiana with 24 plants. Both states have heavy concentrations of chemical plants and oil refineries along the Gulf Coast. Other states with large numbers of plants were Ohio with 23, New Jersey, 20, and Pennsylvania with 17.

Four plants in Wisconsin were listed: Borden in Sheboygan, 30,100 pounds a year; Lachat, Mequon, 11,900 pounds; Plastics Engineering, Sheboygan, 30,000; and Milwaukee Solvay Coke Co., a division of Picklands Mather and Co. (Milwaukee Solvay was listed separately under coke oven plants, for which annual pollution in pounds was omitted.)

The other states and the numbers of plants were Alabama, 13; Arkansas, 2; California, 10; Colorado, 1; Connecticut, 1; Delaware, 2; Florida, 2; Georgia, 2; Illinois, 16; Indiana, 12; Iowa, 1; Kansas, 3; Kentucky, 11; Massachusetts, 1; Maryland, 2; Michigan, 8; Mississippi, 4; Missouri, 3; Montana, 1; Nevada, 1; New Hampshire, 1; New York, 11; North Carolina, 10; Oklahoma, 1; Oregon, 9; South Carolina, 6; Tennessee, 6; Utah, 1; Virginia, 4; Washington, 4; West Virginia, 16.

Also listed were Puerto Rico, with four plants and the Virgin Islands with two.

Pollution foes indict factories in 37 states

MO MAR 15 1982

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No determination on 37

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FOR OTHER STORIES SEE — Air Pollution - Ohio

Massive cancer-causing pollution alleged

MO MAR 15 1982 SI

Akron, Ohio —AP— Two plants in this tire-manufacturing city emit huge quantities of a cancer-causing agent each year, according to a study released Sunday by the National Clear Air Coalition, a lobbying group.

The chemical — acrylonitrile — is used by Goodyear's Chemigum plant and B.F. Goodrich's chemical plant for synthetic rubber products.

The study, by David Doniger of the coalition, was based on Environmental Protection Agency reports prepared in 1979 and 1980.

Air Pollution - Ohio

"They are not breaking the law," Doniger said. "That's precisely the point: There are no standards for these emissions."

US Rep. John Selberling, an Akron Democrat, said he was wary of imposing new emission standards on industries without detailed studies.

Selberling is co-sponsor of a bill that would require the EPA to begin imposing emission limits on acrylonitrile and other chemcials within a year or issue findings that they pose no known risk to public health.

Solvay Coke Cutting Back

Milwaukee Solvay Coke Co. is in the process of shutting down half its ovens by May 1 for economic reasons, a spokesman said Thursday.

Jerald R. Lenz, vice president of the company, said that the shutdown would result in laying off 100 employes and that air pollution would be reduced considerably. The firm has been cited for pollution problems.

Lenz said the company had 200 ovens which are used to make coke for foundries. Fifty were closed Wednesday and Thursday, he said. Layoffs from among 340 employes will start at a date not yet determined, he said.

"The earliest would be two weeks," Lenz said.

He said the ovens were more than 50 years old and inefficient by modern standards. In addition, the coke market has stabilized because some foundries have converted to electricity. A guaranteed larger market would have to be available to make it economical to build new ovens, he said.

Production will be reduced about 40% rather than 50% because the ovens that will continue in use are more efficient, Lenz said.

The company at 311 E. Greenfield Ave., was begun in 1903 and is the largest coke producer in the state.

It has been working with state and county officials to reduce its pollution problems, Lenz said.

"The one good thing in this — the one ray of sunshine — is that the ovens being shut down are the worst (pollution) offenders," he said. "It will reduce considerably the amount of pollution, perhaps 60% to 70%. That's just a guess on my part."

Business in Brief

Milwaukee Solvay Coke to close

Milwaukee Solvay Coke Co., which processes coke for the foundry industry, will close when its coal supply runs out in 75 to 90 days, a company spokesman said. TH JAN 20 1983 LAZ

About 140 employes will be affected by the closing, according to Jerald R. Lenz, company vice president. The 78-year-old company, a division of Pickands Mather and Co. of Cleveland, Ohio, processes about 500 tons of coal per day and is the last coke processing company in Wisconsin, Lenz said.

"Because of a very poor market the last couple of years, things have been bad, and it doesn't look like it's going to get better soon enough or to a great enough extent to justify staying in business," according to Lenz, who said the company had been losing money for some time.

The company at 311 E. Greenfield Ave. serves foundries in Wisconsin, Illinois and Michigan. At capacity three years ago, it had employed 250 people and processed 800 tons of coal a day, he said. The company, cited for air poliution problems in the 1970s, has spent $2.5 million on air-pollution control equipment in the last five years, Lenz said.